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Imperial Oil Limited

Imperial Oil Limited is active in all phases of the petroleum industry in Canada. The company explores for and produces crude oil and natural gas, is a major participant in a commercial oil-sands facility to produce upgraded crude oil, and refines and markets petroleum products. It also explores for and develops minerals and manufactures and sells petrochemicals, fertilizers, and building materials.

The terms company and Imperial as used in this report sometimes refer not only to Imperial Oil Limited but collectively to all of its subsidiary companies or divisions or to any one or more of them.

Reporting in metric

In 1979, the Canadian petroleum industry began converting its reporting to the international system of metric units, known as SI. The company has been using metric units for more than a year, and reporting of all company operations after Jan. 1, 1980, will be in metric. In addition, the 1979 annual report is in metric units.

The most striking changes in reporting of operations is the conversion from barrels and cubic feet to cubic metres (m^3) in reporting volumes of oil and gas, and from acres to hectares in reporting land areas under lease. One cubic metre is equal to approximately 6.3 barrels or 35.3 cubic feet. One hectare is equivalent to about 2.5 acres.

The following table shows some 1979 results reported in both systems of units:

1979 operating data

	previous units		metric units	
Gross production of crude oil and natural-gas liquids	thousands of barrels per day	256	thousands of cubic metres per day	**40.7**
Gross production of natural gas	millions of cubic feet per day	345	millions of cubic metres per day	**9.8**
Crude oil processed	thousands of barrels per day	450	thousands of cubic metres per day	**71.6**
Sales of petroleum products	thousands of barrels per day	468	thousands of cubic metres per day	**74.4**
Exploration land holdings	millions of acres	28	millions of hectares	**11.3**

Financial and operating highlights

Financial	1978	**1979**
		millions of dollars
Earnings		
from operations	314	**471**
including extraordinary gain	314	**493**
Funds from operations	571	**906**
Capital and exploration expenditures	535	**879**
Dividends	124	**150**
Revenues	5643	**6623**
Taxes and royalties	1046	**1254**
		dollars
Per share		
Earnings		
from operations	2.41	**3.61**
including extraordinary gain	2.41	**3.78**
Dividends	0.95	**1.15**
		percentages
Earnings as a percentage of		
average shareholders' equity	15.8	**21.8**
average capital employed	11.4	**15.3**
Operating		
Gross production:		
Crude oil and natural-gas liquids (thousands of m^3/d)	36.0	**40.7**
Natural gas (millions of m^3/d)	8.9	**9.8**
Crude oil processed (thousands of m^3/d)	69.2	**71.6**
Sales:		
Petroleum products (thousands of m^3/d)	71.3	**74.4**
Chemicals (thousands of tonnes per day)	5.4	**6.3**
Gross proved reserves*:		
Crude oil and natural-gas liquids (millions of m^3)	217.1	**200.4**
Natural gas (billions of m^3)	61.2	**62.0**
Net proved reserves:		
Crude oil and natural-gas liquids (millions of m^3)	162.8	**146.9**
Natural gas (billions of m^3)	37.9	**42.4**

*Gross proved reserves include the company's share of the permit capacity of the Syncrude project which at Dec. 31, 1979, was estimated to be 47 million cubic metres. They do not include crude oil or natural gas discovered in the Mackenzie Delta or the Arctic islands, the Judy Creek tertiary reserves, nor the heavy, viscous oil at Cold Lake and other such deposits.

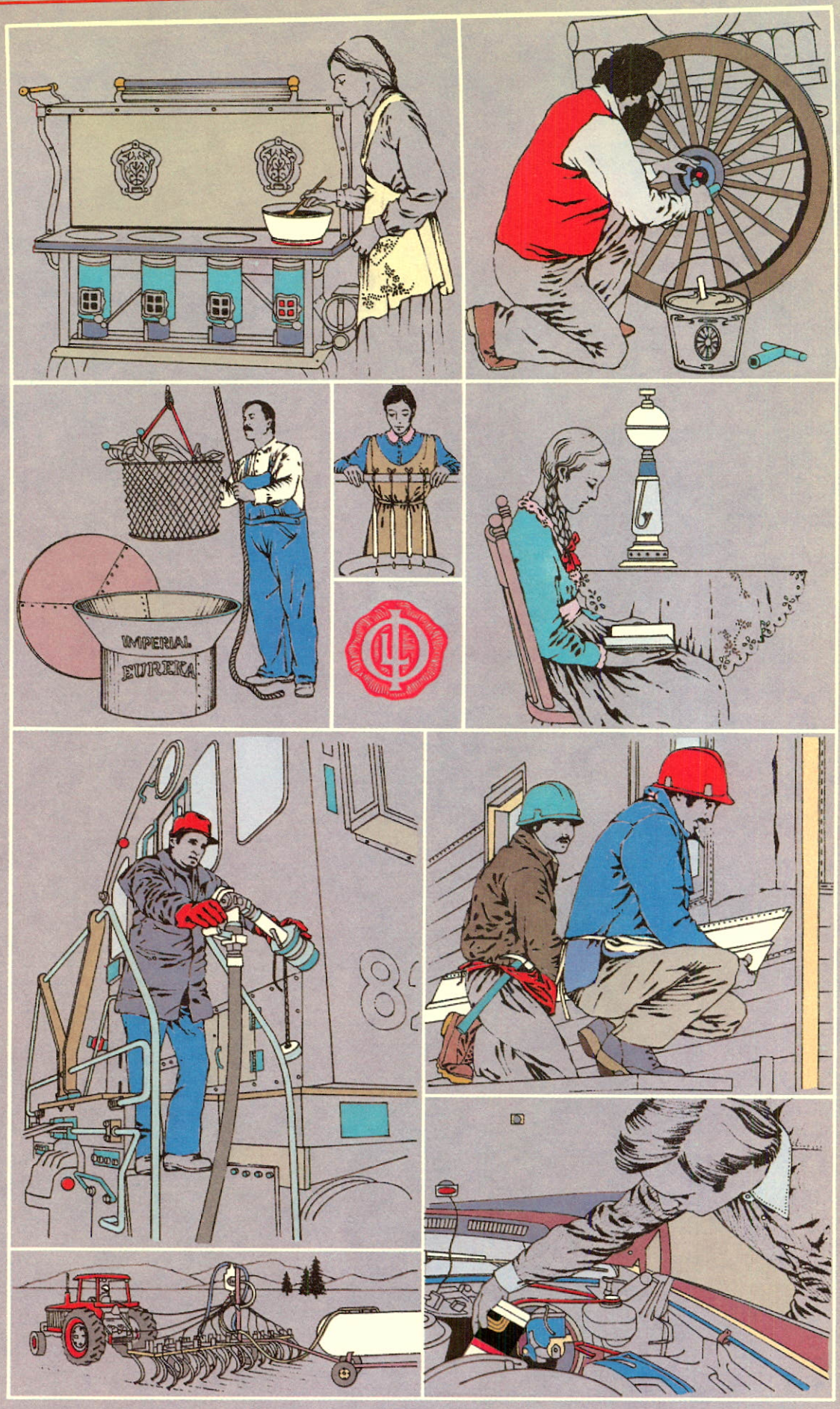
A century of company products has helped Canadians at home and at work, often providing energy for basics like heat and light. In the late 1800s, products were few and simple, like kerosene, an indispensable fuel for stoves and lamps.

Imperial sold lubricants then too, such as axle grease to keep wagons rolling and Eureka harness oil complete with a tub to soften leather and make it last longer. Another important product in those days was paraffin, used for making candles.

Today's products serve more varied markets. Canada's railroads use Imperial fuel and lubricants to run powerful diesel engines. Motorists can add their own oil from a new plastic container at a self-serve station.

Lightweight vinyl siding made from Esso Chemical resins and sold by Building Products of Canada Limited, an Imperial subsidiary, puts an end to the chore of house painting. A special applicator now available lets farmers save time and money by applying liquid ammonia fertilizer as they cultivate the soil.

Imperial's products in 1980 serve the same general purpose as those of 100 years ago: meeting the needs of customers.



Chairman's message

This year, as Imperial Oil celebrates its 100th birthday, our company can look back with justifiable pride on a century of solid achievement.

Imperial has much of which to be proud. In peace and in war it has served the country well, establishing a record of service to Canada and to Canadians that is second to none.

Throughout the whole of its 100-year history, the company has been in the forefront of the continuing quest to find and develop domestic supplies of crude oil and natural gas. Indeed, Imperial played a key role in the events that were to lead to the development of western Canada's petroleum industry as we know it today. Over the course of the past 100 years the company has produced the equivalent of more than 280 million cubic metres of oil to fuel Canada's industrial progress, to transport its goods, to heat its homes, and to move its citizens. More recently, as the search for additional oil and gas has spread to Canada's physical and technological frontiers, Imperial has maintained its pioneering tradition. From the islands of the High Arctic, to the deep-water Atlantic, and to the oil sands of western Canada, Imperial employees have been meeting different challenges and developing new techniques for transforming this country's raw resources into badly needed energy.

All of us associated with Imperial can take pride in our company's record of research and innovation. We can be proud of the quality, reliability, and reputation, built up over many years, of the many products and services we offer, not only in the petroleum area but in a growing number of other endeavours, including our expanding chemical and mineral operations.

I believe that the diverse skills and the wide experience that Imperial has acquired throughout its operations – from exploration and production to refining, distributing, and marketing finished products – qualifies our company to make a unique contribution to the urgent task of further developing Canada's energy potential.

Imperial's capital and exploration expenditures established new records during the year, as did profits. The company's reinvestment ratio of 97 percent of funds generated from operations well illustrates its commitment to Canada and to the development of the country's energy resources. However, levels of profits and internally generated funds will have to continue to grow if the company is to carry out its projected $15-billion program of investments in energy-related projects during the 1980s.

For a country as well-blessed with the necessary natural resources as Canada, total energy self-sufficiency is not only a desirable objective but a realizable goal. Few countries are fortunate enough to possess such a comprehensive inventory of energy resources: crude oil, natural gas, coal, hydro power, and uranium, to say nothing of our wealth of renewable resources that can come to play a major role in our energy supply at some time during the next century.

All resource development takes time and energy development takes more time than most. Despite the encouraging advances that have been made to date in the development of new supplies in western Canada and elsewhere, the achievement of self-sufficiency in domestically produced crude oil within the present decade will be a formidable task.

But our progress towards self-sufficiency will be largely governed by the degree of effort we are prepared to devote to the task of increasing production, as well as by our willingness to conserve and to take steps to make more efficient use of the energy we produce. As a country, we lack neither the resources nor the expertise to rid ourselves of our dependence on foreign oil. The industry has demonstrated, for example, that production of oil from the oil sands is feasible. As technology continues to improve and oil prices rise, the industry will be able to develop a great deal more of this resource. It will not be the limitations of the industry, but our national resolve as reflected in government policies that will determine the pace of oil-sands production.

For Canada, I see in the development of our energy resources immense opportunities, not only in terms of supply security but in economic progress and wealth generation. For individual Canadians, I see these opportunities translated into more jobs and new skills.

And for Imperial I see opportunities on a scale far beyond anything the company has known in the past. I firmly believe that we have, indeed, reached a watershed and that the projects beckoning in the future will launch the company on a second century of prosperity. The major project we are planning at Cold Lake, Alta., will, I am sure, prove to be but the first of many projects of such magnitude that will occupy Imperial's attention during the coming decades. I am confident that the company will maintain and enhance the vital role it has played in the country's history for the past 100 years.

As we stand at the threshold of our second century I would be remiss if I did not recognize the contribution of the many thousands of Imperial employees whose efforts have brought the company to where it stands today. On behalf of the company I salute all the past and present members of the Imperial family: the early pioneers, our annuitants and, of course, our present employees.

J. A. Armstrong
Chairman and
chief executive officer

Consolidated financial results

In the final year of its first century of operations, Imperial Oil achieved a number of financial and operating records. Consolidated earnings were a record high of $493 million, an increase of 57 percent over 1978. Earnings per share rose to $3.78 compared to $2.41 last year. Included in earnings was a non- recurring gain of $22 million or 17 cents per share realized when the Alberta Energy Company Ltd. exercised its option to purchase 20 percent of the company's interest in the Syncrude project.

Capital and exploration expenditures reached $879 million in 1979, up 64 percent. These record expenditures exceeded funds remaining for reinvestment and the company borrowed $292 million during the year.

In natural resources, earnings from increased production of crude oil and from higher prices for oil and natural gas were offset by higher production costs required to maintain producibility, and by additional exploration expenses in the southern basin and the Atlantic offshore. In addition, although the Syncrude plant operated profitably for part of 1979, continuation of some of its start-up problems resulted in an overall loss for the year.

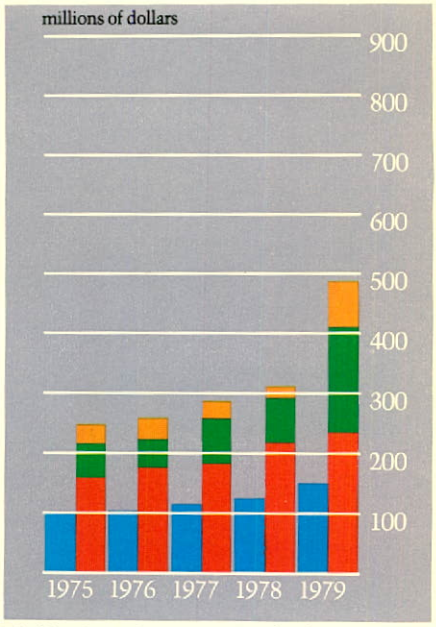
Exploration for oil and gas was balanced between short-term prospects in the western provinces and more costly longer-term opportunities in the frontier regions of the Atlantic and the Mackenzie Delta/Beaufort Sea. Although exploration was concentrated in the western provinces, there were major programs in the frontiers. In 1979, two wells were drilled in each of the Mackenzie/Beaufort and Atlantic offshore regions.

Production of crude oil increased 13 percent in 1979 to 40 700 m^3/d. The increase came from the Syncrude project and existing fields in the western provinces, which produced at capacity for most of the year. The additional oil was needed to meet higher domestic demand and to replace imports reduced by disruptions in world supply patterns. During 1979, expenditures increased to maintain production in some existing fields, to reduce the rate of decline in other fields where production is dropping, and to develop enhanced recovery schemes at Judy Creek, Ferrier, and Norman Wells.

During 1979, the company increased its expenditures on planning and design for the Cold Lake project, which is expected to produce 22 400 m^3/d of upgraded crude oil. This project has been endorsed by the Alberta Energy Resources Conservation Board and could be on stream in 1986.

Minerals exploration continued in all regions of the country.

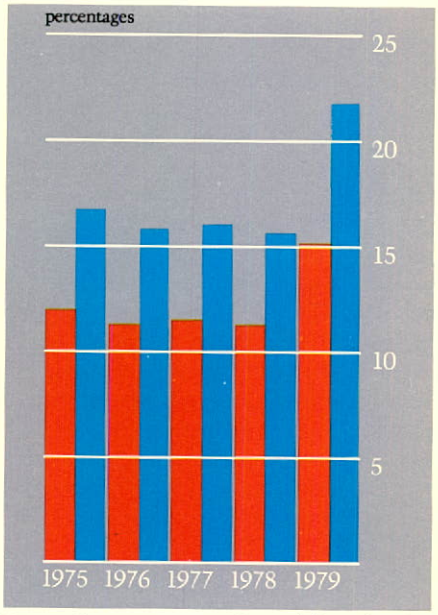
Earnings in 1979 from petroleum products and chemicals were the best ever recorded by the company and made up approximately one-half of total corporate earnings. Improved market conditions, particularly in eastern Canada, resulted



Dividends and earnings

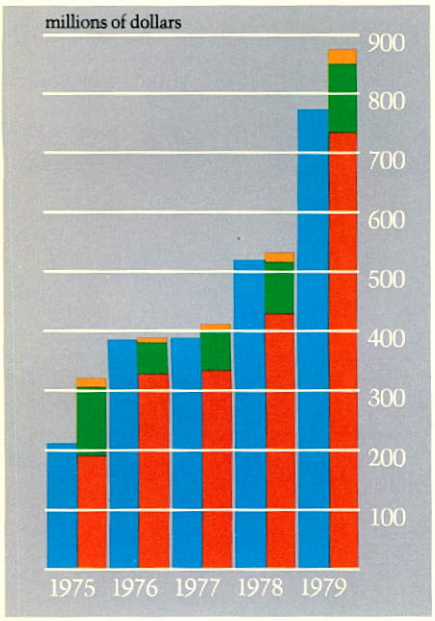
Dividends

Earnings
- *Natural resources*
- *Petroleum products*
- *Chemicals*



Rates of return

- On capital employed
- On shareholders' equity



Funds from operations remaining for reinvestment

- Funds from operations remaining for reinvestment

Capital and exploration expenditures

Capital and exploration expenditures

- *Natural resources*
- *Refining and marketing*
- *Chemicals*

in higher margins on petroleum products. These margins, combined with continuing operating efficiencies, contributed to improved results in refining and marketing. Imperial's refineries operated at an average of 93 percent of capacity during the year versus 89 percent at year-end last year. This rate of operation, when combined with benefits from investments to increase efficiency and to conserve energy, resulted in lower unit costs.

The significant increase in the earnings of the chemicals division comes after a period of modest returns. The improvement came mainly from higher prices due to better market conditions in North America, improvements in efficiency and energy conservation, and greater production. Revenue from export sales increased by 42 percent in 1979 and this contributed to a reduction in Canada's balance-of-trade deficit in the country's chemicals segment. The division has announced a number of major investments, including new plants to manufacture low-density polyethylene, and ammonia and urea fertilizers.

In 1979, dividends totalled $1.15 per share, including an extra dividend of five cents per share. The quarterly dividend was increased from 25 cents to 30 cents per share in the third quarter. The 1979 dividends were 32 percent of earnings from operations.

After allowing for payment of dividends and the additional working capital required by the business, funds remaining for reinvestment amounted to $774 million compared to $522 million in 1978.

Approximately $737 million of the $879 million of capital and exploration expenditures was spent in exploring for and developing natural resources, primarily oil and gas. This amount is 84 percent of total expenditures.

As can be seen in the graph on this page, capital and exploration expenditures have exceeded funds remaining for reinvestment in each of the last five years. Annual shortfalls have been met through short-term borrowing. In order to repay these short-term notes and to provide funds for future expansion, the company borrowed $250 million in U.S. funds ($292 million Canadian) through 30-year debentures.

The improvement in earnings from petroleum products and chemicals resulted in an increase in the corporate rate of return on capital employed. At year end, the return was 15.3 percent, up from 11.4 percent in 1978. During the past four years, the return on capital employed has averaged 11.7 percent while inflation has averaged 8.8 percent. Return on shareholders' equity was 21.8 percent in 1979, up from 15.8 percent.

Natural resources

The company's operations in the development of natural resources include exploring for and producing crude oil, natural gas, and natural-gas liquids, developing deposits of oil sands and producing upgraded crude from them, and exploring for and developing coal, uranium, and other minerals. These operations are carried on through Esso Resources Canada Limited, a wholly owned subsidiary based in Calgary.

Financial and operating statistics	1978	**1979**
		millions of dollars
Earnings from operations	220	**215**
Gain on sale of 20 percent of the company's interest in the Syncrude project, net of income taxes	—	**22**
Capital and exploration expenditures	429	**737**
Capital employed	1238	**1711**
		thousands of cubic metres per day
Gross production of conventional crude oil and natural-gas liquids	34.7	**37.5**
Syncrude upgraded crude oil	0.5	**2.2**
Cold Lake heavy oil	0.8	**1.0**
Total	36.0	**40.7**
		millions of cubic metres per day
Gross production of natural gas	8.9	**9.8**
Sales of natural gas	9.7	**10.4**

Highlights

The most noteworthy features of the company's operations in natural resources during the year were:

capital and exploration expenditures increased by 72 percent to $737 million;

participation in the drilling of 440 exploration and development wells, of which 373 were capable of producing oil or gas;

increase of 13 per cent in gross production of crude oil and natural-gas liquids and of 10 percent in gross production of natural gas;

endorsement by the Alberta Energy Resources Conservation Board of a project to produce 22 400 m^3/d of oil from the deposits at Cold Lake, Alta.;

applications for approval of a technologically advanced method to recover additional oil at Judy Creek, Alta.;

plans to increase oil production at Norman Wells, N.W.T.

Summary

Earnings from operations in natural resources in 1979 were $215 million, a decrease of $5 million from the 1978 results. Revenues from increased Canadian production and higher prices for crude oil and natural gas were offset by increased production costs, higher exploration expenses, and the operating loss incurred by Syncrude in its first full year of operations. In addition to the operating earnings, the company gained $22 million on the sale of 20 percent of its interest in the Syncrude project.

Capital and exploration expenditures were $737 million, an increase of $308 million or 72 percent over 1978, and a record for the company. The amount reflects greater exploration for oil and gas in western Canada and in the Atlantic off the east coast as well as expenditures to increase daily production from some existing fields, to maintain production in others, and to reduce the rate of decline in fields where production is going down.

Capital employed in the development of natural resources increased by $473 million to reach $1.7 billion. The increase is due mainly to the cost of successful exploration and development wells, expenditures required to develop oil pools and gas fields, and investments to increase recovery from existing pools and fields.

A century of development

1980 marks the 100th anniversary of Imperial Oil. The company was born in London, Ont., on Sept. 8, 1880, at a time when the Canadian market was glutted with kerosene – the main product then – and cheaper U.S. crude oil was giving stiff competition.

But on that day in London, the company's 16 founders believed they could build a profitable enterprise despite the bad times. Their charter was to find, produce, refine, and distribute petroleum and its products throughout Canada.

Imperial is still doing that. And something else hasn't changed over the past century: the dedication of skilled people who make up the company. They were – and still are – the real pioneers. Without their initiative and drive Imperial never would have prospered.

In the beginning, the contributions of individuals stood out. But the world and Imperial have become more complicated; groups of employees are needed to manage projects that are too much for one person. Singly or in groups, however, people are the reason that Imperial Oil is entering its second century with confidence.

The company has prospered, often in the face of great obstacles. In 1910, for example, gasoline was in greater demand than kerosene because of the rapidly growing popularity of automobiles. More crude was needed, yet production from Ontario's oil fields was dwindling. So Imperial geologists set out to seek new fields, by canoe or on horseback, often exploring in unchartered areas, checking the lay of the land for surface signs that might indicate oil underground.

In 1914, while the hunt was still going on in Canada, Imperial formed a subsidiary to search for oil in the jungles of South America. That same year, a geological party went to Turner Valley, about 55 km from Calgary, where another company had discovered oil. Even the Far North came under Imperial's scrutiny as a possible source of new supplies in 1914. The company's chief

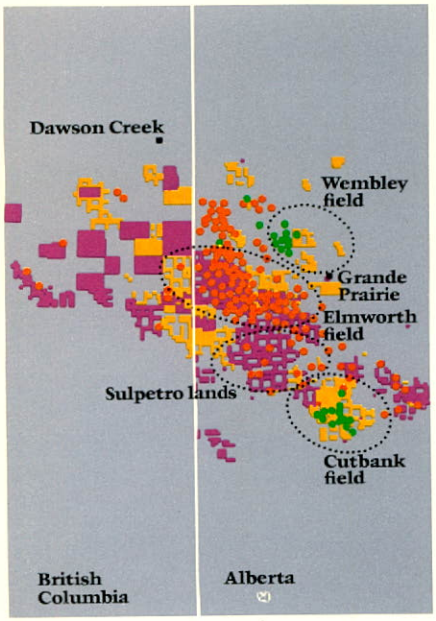
geologist, Dr. T. O. Bosworth, began preliminary surveys as far north as the Northwest Territories.

With the onset of World War I, exploration in some of the far-flung regions ground to a halt. But the search still continued in Ontario. At the annual meeting in February, 1919, Imperial President W. J. Hanna reported that the company had spent an average of $250 000 annually exploring for oil during the previous five years. By that time – with the war over – 12 parties of company geologists were again exploring the West and the North.

One expedition in 1919 led four Imperial employees along the foothills of the Rockies from the Athabasca River to the Peace River – more than 320 km When the terrain became too rough for horses, they continued on foot. At that time, there wasn't even an established boundary between British Columbia and Alberta. Indian villages of teepees were the only settlement. During their three-month journey, the oil explorers got bogged down by 15 cm of snow – in May!

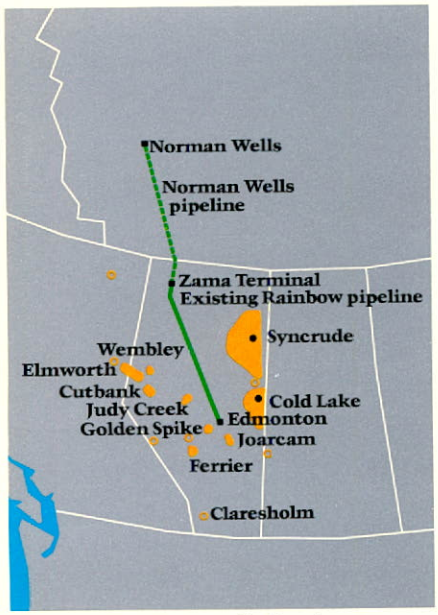
Another of the geological parties made it almost as far as the Arctic Circle, just north of Fort Norman, N.W.T., and recommended drilling. A six-man crew spent two months just getting there by railway and riverboat, hauling a drilling rig with them. In August, 1920, they found oil – farther north than any oil company had ever made a discovery. One invaluable company pioneer in those days was Ronald MacKinnon, a dispatch bearer. MacKinnon was the only communications link between the frontier and Imperial's staff in Edmonton. Three times he traveled 2000 km south from Fort Norman to Waterways, Alta., alone, on snowshoes and with only a dog team for company. The trips took eight weeks each.

Operations in the North convinced Imperial of the need for air travel over long distances. In 1921, the company bought two five-passenger airplanes. Bad weather often kept them on the ground or forced them down en route. Once *(continued on page 13)*



Elmworth area

- Oil
- Gas
- Farm-in lands
- Company lands



Activities in western Canada

- Exploration areas
- Other exploration areas

Review of operations
Exploration

	1978	**1979**
		millions of dollars
Exploration expenditures, oil and gas		
Western provinces	131	**342**
Frontiers	49	**92**
Total	180	**434**
Exploration wells drilled, gross*/net**		
Western provinces	102/58	**163/61**
Frontiers	5/3	**6/3**
Total	107/61	**169/64**
		millions of hectares
Oil and gas holdings, gross†/net††		
Western provinces	3.2/1.3	**3.6/1.4**
Frontiers	24.1/10.9	**20.5/9.9**
Total	27.3/12.2	**24.1/11.3**

*Gross: the total number of wells in which the company has an interest.
**Net: the number of wells after the interests of others have been deducted.

†Gross: the total area in which the company has an interest.
††Net: the area after the interests of others have been deducted.

Western provinces

Working alone or with others in 1979, the company participated in the drilling of 163 exploration wells, putting particular emphasis on Alberta in the Elmworth, Cutbank, and Wembley areas where oil is being found as well as gas. In these areas there are at least 15 prospective layers of porous rock and individual wells have already proven five of these layers to be capable of commercial production. This drilling program added to the company's reserves of oil and gas.

These drilling figures include results of a farm-in to lands held by Canadian Hunter Exploration Ltd., which was agreed to in August, 1978. By the end of 1979, the company had spent $129 million of a possible $179 million. By the end of 1979, 179 wells had been drilled under this agreement, of which 101 were gas, 51 oil, and 27 were dry.

Exploration drilling-1979
number of wells

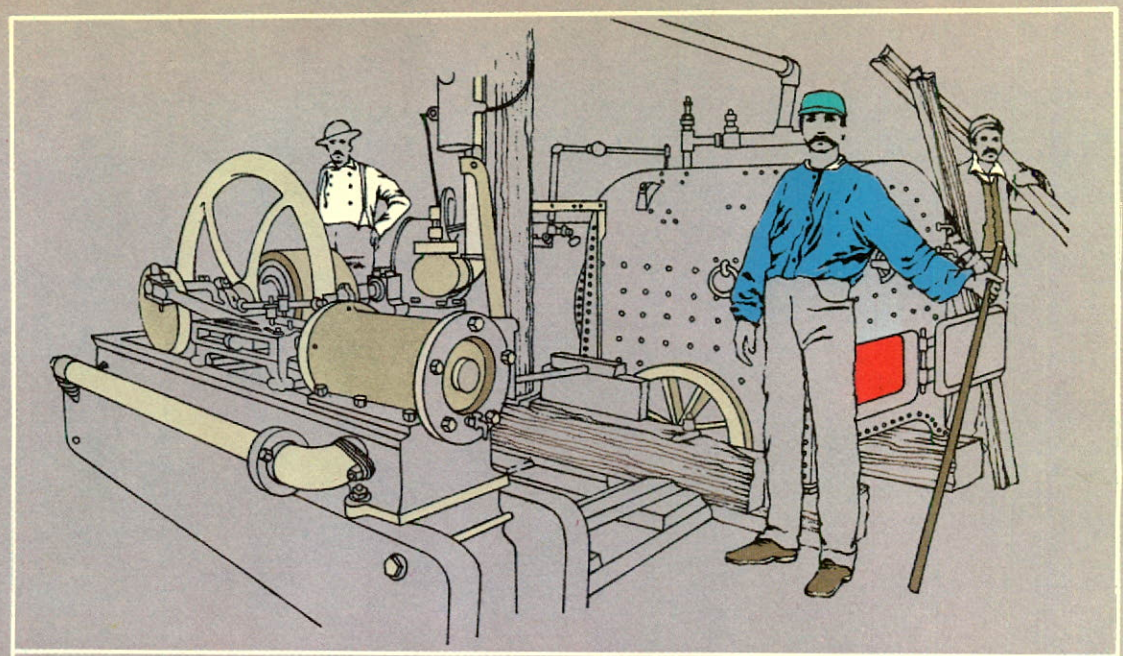
Area	Gross	Net	Oil	Gas	Dry
Elmworth	45	8	–	7	1
Cutbank	15	7	2	4	1
Wembley	5	2	1	1	–
Ferrier	16	16	13	–	3
Others	82	28	8	9	11
Total	163	61	24	21	16

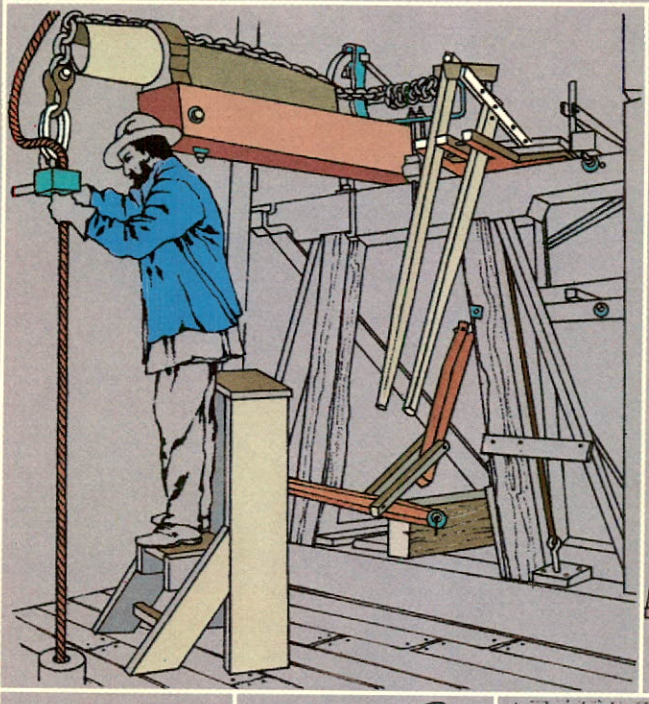
Wood-fired boilers produced steam to power the relatively simple drilling rigs of the late 19th century. In charge of the operation was the boiler man; a fireman provided the necessary backup, hauling in wood and feeding the flames.

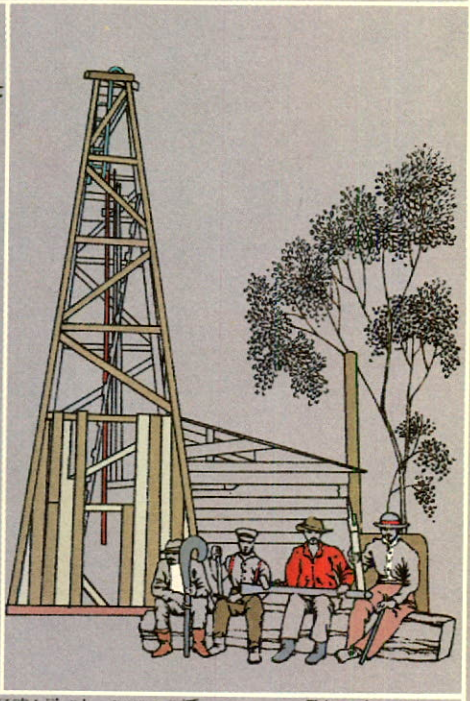
The driller was extremely skillful. With a hand on the cable, he could "feel" the action of the bit on the rock below and adjust the length of cable to control the pressure on the bit. Mistakes could cause broken bits and lengthy delays. At a rig drilling near Petrolia, Ont., the drilling crew posed outside holding a bit and a hook-shaped wrench used to twist the bit onto the stem.

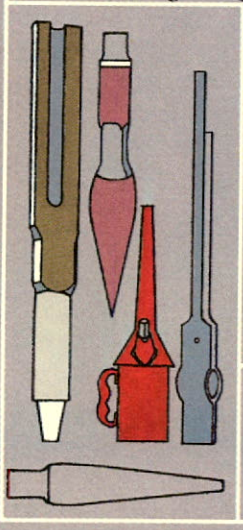
The old-time tools were simple but effective. Shaped like a chisel, the bit (in brown) was about six feet long and literally pounded through rock. Tools called spears were used to fish out broken bits.

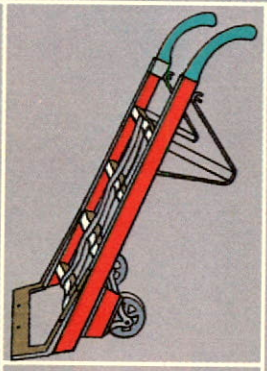
Made of solid steel, the bits and drill stems were too heavy for a man to lift and had to be carted. A bit's strength depended on the skills of the tool dresser, who had to temper the red-hot steel just right, by quenching it in cold water. Too long in the water would make it brittle; too short and it would be soft.

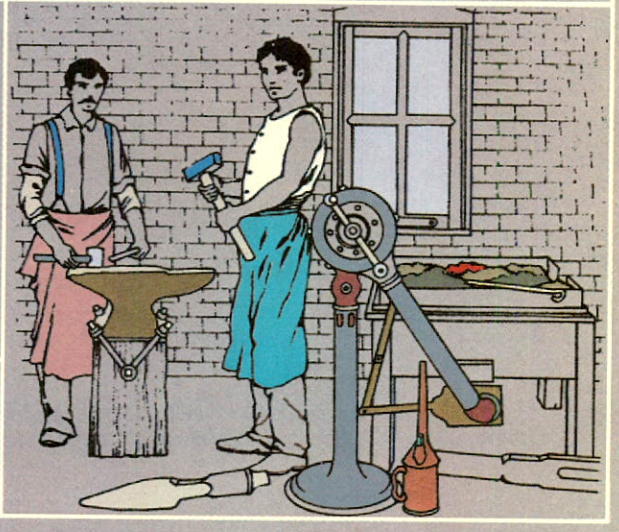


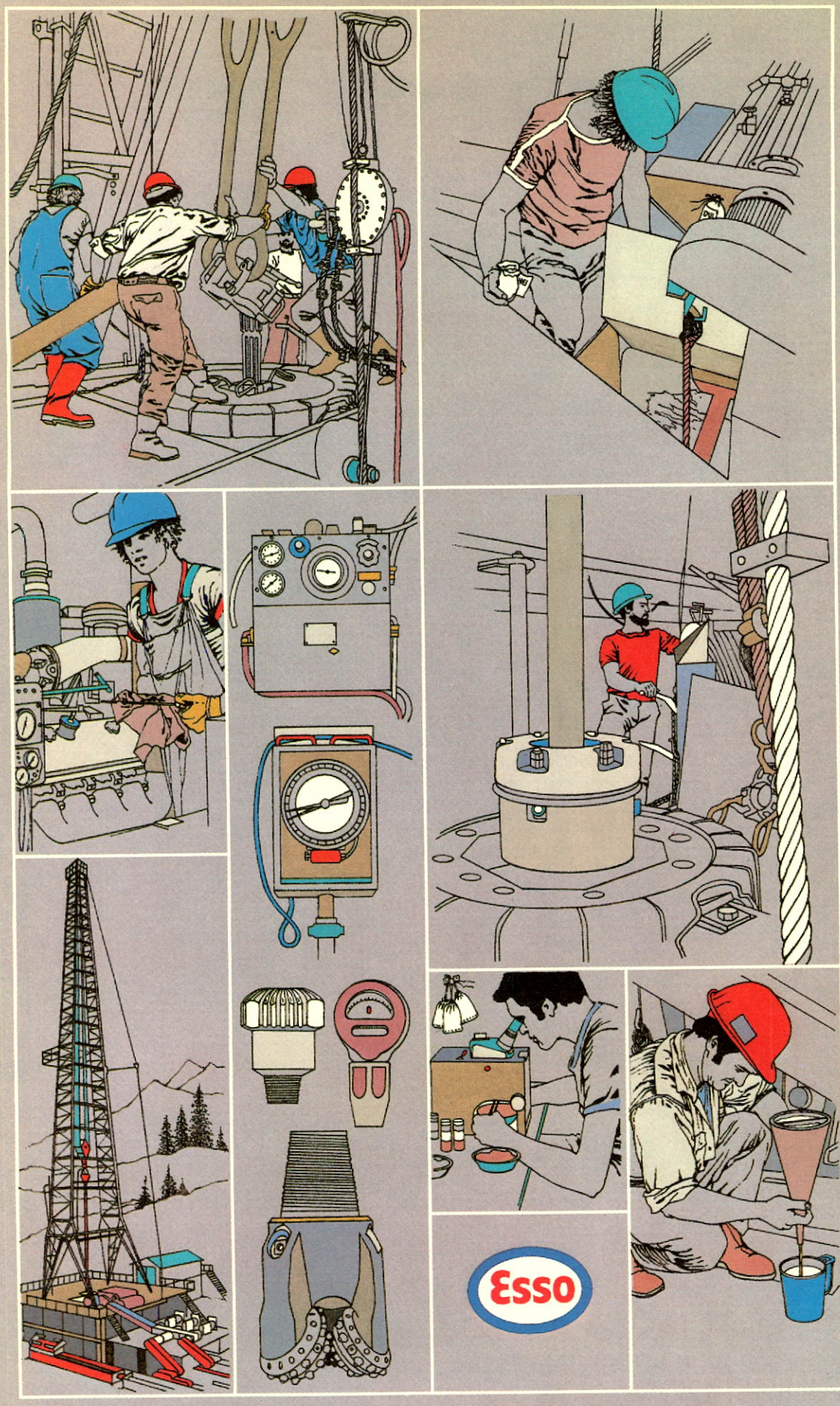












On the floor of a complex modern rig, the crew attaches a clamp to pull out a piece of pipe–just one of many that make up the drill stem. A sample catcher takes rock cuttings out of the moving stream of drilling mud, which is used to lubricate the turning bit. Under a microscope, a geologist will study the cuttings for information about the underground rock formations.

Like the boiler man of old, today's motor man makes sure the engine keeps working and repairs any breakdowns. The driller stands at a complex instrument panel, carefully controlling the weight on the bit as it rotates. He too "feels" the rock below–a good driller's hands can sense the drilling through the action of the machinery.

Another member of the team is the mud man, who checks the quality of drilling mud with a funnel. Choosing the right drilling mud is a science now.

Different gauges and meters inform the driller about conditions underground, including depth and pressure. A $10 000 diamond bit (in white) is used for drilling through very hard formations. Below it is a rock bit for normal drilling.

The company spent $108 million in 1979 to acquire oil and gas exploration rights to 323 000 gross hectares (129 000 net) in western Canada. This includes lands in the highly prospective areas of Elmworth, Cutbank, Wembley, and Claresholm.

In December, the company announced that it will spend $32 million in drilling and related expenditures on lands held in part by Sulpetro Limited in the Elmworth-Wapiti area of Alberta for a 25-percent interest in Sulpetro's net earnings from production from the leases.

The company has entered into an agreement with Sundance Oil Canada Ltd. in the Claresholm area of southern Alberta. A major exploration program is required to earn a 50-percent interest in these lands. Drilling began late in 1979 and initial results were encouraging.

Frontier regions

While the industry has been successful in exploring for oil in the western provinces, additions from these finds are not enough to offset declines in reserves of conventional oil. In the long term, the frontier regions of the Arctic and the Atlantic offer the best hope for large additions to Canada's supply of conventional crude oil and natural gas.

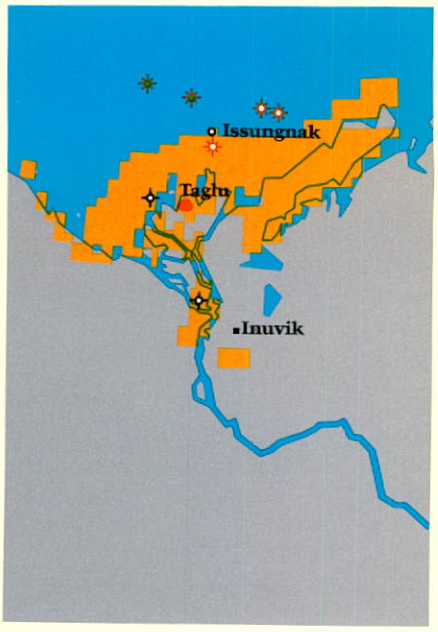
For this reason, the company is active in the Mackenzie Delta and the Beaufort Sea, the Queen Elizabeth Islands of the Arctic, and the waters off the east coast. The company spent $92 million in these regions in 1979, where it participated in six wells.

Mackenzie Delta/Beaufort Sea

The company holds federal exploration permits to about 2.5 million hectares, two-thirds offshore in the Beaufort Sea and one-third onshore in the Mackenzie Delta.

In 1979, the company spent $33 million in the area for two wells and preparations for a start on a third at Issungnak, nine kilometres north of the exploration well drilled at Isserk in 1978. This compares with $11 million for two wells in 1978. Neither of the 1979 wells found oil or gas in commercial quantities.

The status of an Arctic gas pipeline is uncertain at present, and the company is keeping one drilling rig in the Beaufort region, mainly to retain the land permits in good standing and to follow up the potential of areas where there have been shows of oil and gas.



Mackenzie Delta
Beaufort Sea

- Gas
- Oil and gas
- Drilling location
- Dry hole
- Company lands

(continued from page 8)
one of the aircraft smashed a propeller during a forced landing; Bill Hill, Imperial's flight mechanic, made a new one out of oak sleigh runners and moose-hoof glue. That propeller is on display in the National Aviation Museum in Ottawa now. Imperial's planes were the first to penetrate Canada's northland. The company was a pioneer in bush flying, the country's earliest form of commercial aviation.

Norman Wells was a significant discovery but it was too far away from the country's population centres. To find supplies closer to markets, Imperial stepped up its exploration in the Prairies and began searching in the Gaspé region of Quebec. Success came in the West. An Imperial subsidiary, the Royalite Oil Company, made a big strike at Turner Valley in 1924. Other companies drilled in the area and found more oil. Throughout the twenties and thirties, Turner Valley oil accounted for nearly all of Canada's domestic supplies.

It wasn't nearly enough. By the mid-1940's, almost 90 percent of the country's oil was being imported. Production in the Turner Valley fields was declining steadily and demand was rising by seven percent yearly.

Henry Hewetson, Imperial's president in 1946, called 18 senior advisors to Toronto to study exploration possibilities. Their consensus was to drill in the Edmonton area. Seismograph crews moved in and a site was chosen just outside Leduc, 29 km southwest of Edmonton. In a way, this was a make-it-or-break-it attempt. Imperial had spent about $23 million since 1919 searching for oil from Manitoba to the Rockies. If this last effort failed, the company was considering making gasoline from natural gas for the Prairie market, cutting back at Sarnia, and expanding the Montreal refinery to supply Ontario, Quebec and the Maritimes with products from offshore oil.

On Feb. 13, 1947, the Leduc well was finished. Until that day, Imperial had drilled 133 consecutive holes – every one of them dry. The man in charge of the

Leduc well was Vernon Hunter, a tool-pusher whose nickname was, understandably, "Dry Hole" Hunter. But on that day about 500 visitors, including members of the press and various levels of governments, stood on the flat, snow-covered grain field looking up at the drilling derrick. Even the brisk cold wind and a temperature of -10°C didn't deter them. Preliminary tests indicated this well was a winner, and the word had been sent out. Even so, when the well came in at four o'clock that afternoon, one of the crew shouted, almost as if to convince himself, "Here she comes! It's oil!"

Imperial's 134th well was the most significant oil discovery in Canada's history. It proved the existence of major oil supplies in the West. Other successful wells followed and the country was ushered into an era of plentiful oil.

But Leduc was a long way from the markets in eastern Canada. To carry that oil half-way across the country, Interprovincial Pipe Line Limited was formed in 1949 to build a line from Edmonton to Superior, Wis. A major force in the building of the line, Imperial had to sell off some of its subsidiaries to raise money for the project. It even had to guarantee to make up any losses incurred by the other investors.

By the autumn of 1950, the pipeline was completed – in the record time of only five months. Since then, the line has been extended on three different occasions: from Superior to Sarnia, then to Toronto, and most recently to Montreal. Today Imperial is still Interprovincial's largest shareholder, with 32.8 percent.

In the sixties, Imperial people took to the frontiers again. But this time the frontiers were the Arctic and off the Atlantic coast.

In 1970, after six years of fruitless exploration, Imperial found Canada's first Arctic oil at Atkinson Point in the Beaufort Sea. A year later, gas was discovered in the region by Imperial. Much of the company's holdings in the Arctic are offshore in shallow water where drilling with conventional ships or platforms is impossible. But Imperial

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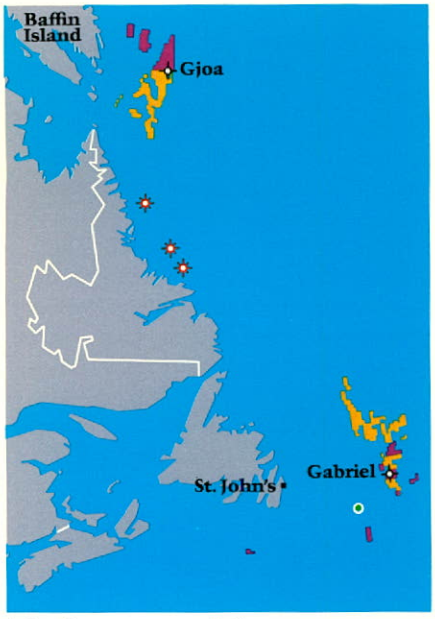


Atlantic operations

- Gas
- Oil
- Dry hole
- Farm-in lands
- Company lands

Arctic islands

In the Queen Elizabeth Islands of the Arctic, the company is participating with others in an exploration program. This group of companies – Arctic Islands Exploration Group – will spend $80 million over a six-year period ending in 1982. During 1979, the group participated in the drilling of two wells as part of this commitment. Whitefish H-63, in the channel between Melville and Lougheed Islands was a significant gas discovery, and the company's interest in the reserves discovered by this well is 10.5 percent. The other, Desbarats B-73 in the same general area, was dry. In 1979, the company's share in the cost of these two wells was $5 million.

Plans for 1980 call for three more locations to be drilled from ice islands in this area, including a follow-up to the Whitefish well where drilling began before the year ended.

Atlantic offshore

Large sedimentary basins with potential for large accumulations of oil and gas exist off Canada's east coast. The company spent $54 million exploring in this area in 1979. Two wells were drilled on lands held by others as part of farm-in agreements: Gjoa G-37 in Davis Strait off the southeast coast of Baffin Island and Gabriel C-60, 450 km east of St. John's were dry.

Oil production

The company's gross production of conventional crude oil and natural-gas liquids averaged 37 500 m^3/d in 1979. This is an increase of 8 percent over 1978.

Early in 1979, the revolution in Iran disrupted international crude-supply patterns. The Canadian oil industry increased its production to compensate for the drop in supplies of foreign crude as well as to meet an increase in domestic demand. Canadian crude oil was exchanged with refiners in the western United States for offshore crude which, in turn, was delivered to eastern Canadian refineries. The company's oil fields operated at capacity to help to meet this demand.

Capital expenditures increased in 1979 on facilities to maintain the company's capability to produce at high levels. These included the drilling of more production wells, the maintenance of existing wells, and modifications to equipment to maximize the productive capacity of each field. In total, 271 new development wells were drilled, increasing productive capacity and adding new reserves. Major drilling programs were carried out at Judy Creek and at Ferrier, both in Alberta. At Ferrier, the company is participating in the building of field, gas plant, and waterflood facilities to add a further 635 m^3/d of oil production. Total spending for all of these operations reached $191 million in 1979, an increase of $102 million over the 1978 figure. It is expected that production will continue at capacity to meet the continuing high level of Canadian demand.

The company continues to be in the forefront of oil-field technology. For example, studies completed in 1979 showed that the reserves of oil at the Judy Creek field could be increased by 31 million cubic metres by injecting carbon dioxide into the formation. The project to do this would cost about $370 million, and applications for its approval were submitted to the Alberta Energy Resources Conservation Board in 1979. Injection of carbon dioxide is planned to begin in 1982 with additional production beginning in 1984 and increasing gradually to a maximum in the 1990s. Success with the Judy Creek project could lead to other opportunities for carbon dioxide injection, which the company is investigating.

The company also has an enhanced recovery pilot project under way at the Joarcam field in Alberta to evaluate the feasibility of burning a small part of the oil still in place to increase the amount of recoverable reserves.

Re-evaluation of the Norman Wells field has shown that installing a waterflood and drilling more wells can increase production from the 1979 level of about 500 m^3/d to almost 4000 m^3/d in the mid 1980s at a cost of $375 million. This program increases recoverable reserves, of which the company's share is 18.2 million cubic metres. At year-end, waterflooding was ready to begin on part of the pool and the company had prepared applications for approval of new production facilities. In addition, Interprovincial Pipe Line Limited will apply to build a pipeline to move the additional 3500 m^3/d of crude from Norman Wells to the pipeline system in northern Alberta. If approved, pipeline construction could start in time for deliveries of crude oil to begin in 1983. The federal government has a one-third carried interest in the Norman Wells field.

Natural-gas production and sales

Sales of natural gas averaged 10. 4 million cubic metres per day during 1979, seven percent more than in 1978. Gas for these increased sales was supplied mainly from the Golden Spike oil pool, where some of the gas previously injected to increase oil production is now being sold.

Oil-sands operations

The oil sands of northeastern Alberta rank among the largest sources of hydrocarbons in the world. The amount of bitumen in place is estimated at more than 150 billion cubic metres, although only a fraction of this amount is economically recoverable using current technology.

The company has been active in the oil sands for more than 20 years and has developed technology for the recovery of bitumen based on extensive laboratory and field research. The total cost of all oil-sands activities was $736 million at year-end. It is a participant in one plant already operating in the Athabasca sands and has received endorsement by the Alberta Energy Resources Conservation Board for a project to be built at the Cold Lake deposit. The company has leases on almost 300 000 net hectares of oil sands.

The National Energy Board has stated that prompt development of the oil sands is highly desirable in order to offset Canada's reliance on imported crude oil as production of conventional oil in western Canada continues to decline.

Syncrude

The Syncrude project, in which the company has an interest of 25 percent, shipped an average of 8000 m^3/d of upgraded crude oil in 1979. Design capacity is 17 300 m^3/d and peak production rates in excess of 16 000 m^3/d were achieved when all major units were operating. The company's share of 1979 shipments averaged 2200 m^3/d, which was processed by Imperial refineries at Edmonton, Vancouver, and Montreal.

Syncrude encountered start-up problems of the kind that are to be expected in a project of its size and complexity. Modifications have been made to alleviate these problems and the outlook for 1980 is for greater production and increased revenue. In addition, the plant's capacity can be increased through debottlenecking to reach the permit limit of 20 500 m^3/d of crude oil.

On Aug. 30, 1979, the Alberta Energy Company Ltd. exercised its option to purchase 20 percent of the participating interests in the Syncrude project. All participants were required to give this option at a price established when the agreement on the project was reached. As a result, the company's interest in Syncrude was reduced from 31.25 percent to 25 percent.

Cold Lake

The company has plans for a project to produce 200 million cubic metres of upgraded crude oil over a period of 25 years at the rate of 22 400 m^3/d from the oil sands at Cold Lake, Alta. In October, the Energy Resources Conservation Board recommended approval of the project to the Government of Alberta with modifications, mainly stipulations that coal should be used as part of the fuel for the project and that the water it needs should come from the North Saskatchewan River instead of Cold Lake.

The heavy crude oil at Cold Lake is too viscous to be produced in the conventional manner and at 450 m is too deep for mining. To produce it, the company is using a technique that injects steam into the formation through wells to heat the crude oil sufficiently to allow it to be pumped to the surface through the same wells. A plant will upgrade the heavy crude into a light crude oil, which will be processed in existing Canadian refineries.

Research with pilot projects over many years has demonstrated that the Cold Lake reserves can be produced economically with current technology. Two pilot plants are operating at the Cold Lake site and their production was 1000 m^3/d in 1979. In September, the Alberta Energy Resources Conservation Board approved an expansion of the capacity to 2200 m^3/d.

During 1979, the company continued work on the detailed design of this project, which will cost more than $7 billion. This is an increase from previous cost estimates and is due mainly to the probability of high levels of inflation in the economy and to the modifications required by the Energy Resources Conservation Board. Expenditures on planning, design, research, and testing for the project amounted to $22 million in 1979.

During 1979, the company continued its studies of the environmental and social impacts of the project on the Cold Lake area and submitted a comprehensive statement to the Alberta department of the environment. The company invited a major contractor to become one of the members of a joint venture to engineer and build a large part of the project.

The company's share in the Cold Lake project will be the biggest investment in its history. As the operator of the project, the company plans to retain an equity of at least 50 percent. The fiscal arrangements under which the project may proceed are being discussed with the Alberta and federal governments. The company believes these terms can be settled and participation committed in time for work on the plant site 300 km northeast of Edmonton to be started early in 1981, with initial production beginning late in 1986.

A very high level of Canadian content in the project engineering and management as well as the supply of materials is planned. During construction, as many as 10 000 persons will be employed, most of them on the project site, and 2000 permanent jobs will be created. The company is also meeting with government agencies and local groups to help identify the interests of the communities in the area and to assist in determining how their future needs can be met.

Minerals

Through Esso Minerals Canada, the company explores for minerals and develops and operates mines. Exploration expenditures for 1979 were $13 million, an increase of $3 million over 1978.

Uranium

Exploration and development are continuing on the uranium discovery at Midwest Lake in northern Saskatchewan. The company has a 50-percent interest in this property and is the operator. A new estimate made in 1979 indicates two million tonnes in place assaying an average of 1.25 percent uranium oxide for an estimated 26 million kg of uranium oxide.

Discussions on the building of an airstrip and a road to the site were held with the Saskatchewan government in 1979 and detailed studies of mine design and mill process and design were begun.

Nearly $3.4 million was spent on environmental and other studies at Midwest Lake in 1979. This information will be used in an environmental-impact statement to be filed with the Saskatchewan government early in 1980. The project's effects on wildlife, vegetation, air and water quality, and the health and safety of mine workers and the public were studied.

Coal

One of Canada's largest potential sources of energy is coal.

At the end of 1979, the company had 83 500 net hectares of leases in Alberta and British Columbia containing subbituminous and bituminous coal. These leases contain 0.3 billion tonnes of proven recoverable reserves of subbituminous coal that can be burned to generate electricity or supply fuel to industrial customers.

The use of coal at the Cold Lake heavy-oil plant has been recommended, and the company is studying a number of possible sources, including a coal deposit at Judy Creek, Alta., held by the company. The coal from this deposit is low in sulfur and has been tested successfully in a commercial power plant.

The company has the right to earn an interest of 16¾ percent in Quintette Coal Limited by making exploration and development expenditures on its property. Quintette controls leases containing an estimated 2.8 billion tonnes of mostly high quality metallurgical coal. Quintette has completed its technical and economic evaluations and is now in the process of developing markets for a four-million-tonne-per-year mine.

Base metals

Construction of surface facilities were completed in 1979 for a lead-zinc project at Gays River, N.S., and the mill began operating in the fourth quarter of the year. It was designed to process 476 thousand tonnes of ore per year to be processed into concentrates for export.

In May, 1979, the company acquired the former Granduc underground copper mine near Stewart, B.C. Total investment in this property at the end of 1979 was $16 million. Production of concentrate for export is scheduled to begin in mid-1980 from a recoverable reserve of 6.7 million tonnes. Average annual production is planned to be 1.3 million tonnes of ore grading 1.63 percent copper before concentration. This project is expected to create about 370 jobs.

Surface drilling on a molybdenum deposit near Trout Lake, B.C., 60 km south of Revelstoke, continued in a joint venture with an associate, who is the operator. During the year, drilling further delineated the deposit. Fifteen steeply inclined core holes distributed randomly over an area 305 m square have yielded assays of between 0.2 and 0.4 percent molybdenite over a vertical interval of 305 m. In the fourth quarter of 1979, work was begun on the deposit to obtain the information needed to begin planning mine development.

The company continued exploration drilling at a copper-zinc deposit near Kutcho Creek in northern British Columbia in 1979. The drilling results to date indicate six million tonnes of ore with an average of 4.33 percent zinc and 2.38 percent copper, plus 44 g of silver and 0.4 g of gold per tonne. Work on this prospect will continue in 1980. In 1979, the company began negotiations with the owner of the adjacent deposit, with a view to a possible joint venture.

Renewable energy resources

The company spent $800 000 on research and development of renewable energy in 1979, with the main emphasis on solar collectors and energy storage.

Two solar research projects in the preheating of water were started during the year. One is at Sarnia refinery and the other is at a truck wash at an Imperial distribution terminal in Toronto.

Negotiations were also started with the University of Calgary to design and operate a small experimental solar facility on the roof of Esso Plaza, the new head office of Esso Resources Canada Limited, which is under construction in Calgary for occupancy late in 1980. The facility will provide information to help evaluate solar heating in such large buildings.

(continued from page 14)
engineers came up with an ingenious solution: artificial islands. The first one was completed in 1973; since then, the company has drilled wells from 16 more.

Another kind of frontier exists in Alberta – a technological frontier. In the Athabasca oil sands, a monumental project is under way: the Syncrude project is already producing upgraded crude oil. The bitumen found here is an important energy resource for Canada's future. But in late 1974, after nearly 20 years of effort, the project almost collapsed. One of the four participating companies in the consortium withdrew. On Feb. 3, 1975, a new solution evolved, thanks to determined, last-minute negotiations in which Imperial played a key role. Recognizing the importance of the project, the federal government, Alberta, and Ontario decided to invest in it, in addition to the three oil companies already committed. Today, Imperial is still the largest participant in Syncrude, with 25 percent.

Not far away, another innovative project is taking shape. The thick oil at Cold Lake is too deeply buried to be surface mined and too viscous to be produced by conventional methods. Once more, company people have pioneered in technology. In an experimental program that was begun in 1964, a production method that injects high-pressure steam into the reservoir was developed. In 1979, the company's application for a commercial project at Cold Lake was recommended to the provincial government by the Alberta Energy Resources Conservation Board. If realized, this could be the company's largest undertaking yet, costing more than $7 billion and setting the stage for another century of progress.

Progress in products

Soon after it was formed, Imperial Oil began to broaden its markets, pushing for sales beyond southwestern Ontario. By 1881, H. E. Sharpe, an oil dealer from London, Ont., was traveling across the frontier West finding new customers. Offices opened in Winnipeg to the west, in Montreal to the east. Imperial's candles, kerosene, and lubricants were becoming known throughout Canada. They arrived on the west coast in 1883, ready to be shipped by mule train to loggers and miners inland.

The company grew at such a rate that, by 1893, there were 23 Imperial branch offices right across the country.

With the turn of the century came a big change – the automobile. Oil companies were affected directly; by 1910, gasoline had replaced kerosene as the main product of refineries. Imperial's Vancouver warehouse manager, C. M. Rolston, started Canada's – and probably North America's – first gasoline station in 1907 with a length of garden hose and a water tank full of gasoline.

Across Canada, cars and tractors were demanding more and more gasoline. World War I added its own demand for petroleum. Imperial needed more refining capacity. And in Tom Montgomery, the company's chief engineer, it had just the person to achieve this goal. By 1918, he had managed to construct refineries at Burrard Inlet east of Vancouver, at Regina, Montreal, and Dartmouth, N.S. In just five years, Imperial had grown from one refinery at Sarnia to five from coast to coast.

That same year, the first airmail flight in Canada took place, from Leaside (now part of Toronto) to Ottawa. The aircraft was fueled from a horse-drawn Imperial Oil wagon. At that time, the company was alone in providing service for aviation.

The company did its job of manufacturing and selling petroleum products well. By 1919, Imperial sold more of the country's gasoline and lubricants than all other companies combined. The company's name continued to be associated with innovation. In 1920, Imperial gasoline was sold in Canada's first self-

(continued on page 25)

Petroleum products

In the petroleum-products segment of Imperial's business, the company manufactures, distributes, and markets refined petroleum products and sells related products and services.

Financial and operating statistics	1978	**1979**
		millions of dollars
Earnings from operations	75	**176**
Capital expenditures	86	**102**
Capital employed	1524	**1506**
		thousands of cubic metres per day
Product sales	79.5	**83.7**
Crude processed	69.2	**71.6**
Capacity utilization (percent) at Dec. 31	89	**93**

Highlights

The most noteworthy features in the company's petroleum-products segment during 1979 were:

a level of earnings that provided a better return on capital employed after many years of depressed results;

arrangements for product supply that enabled the company to meet its commitments to customers despite disruptions in foreign crude supplies and refinery operating problems throughout the industry;

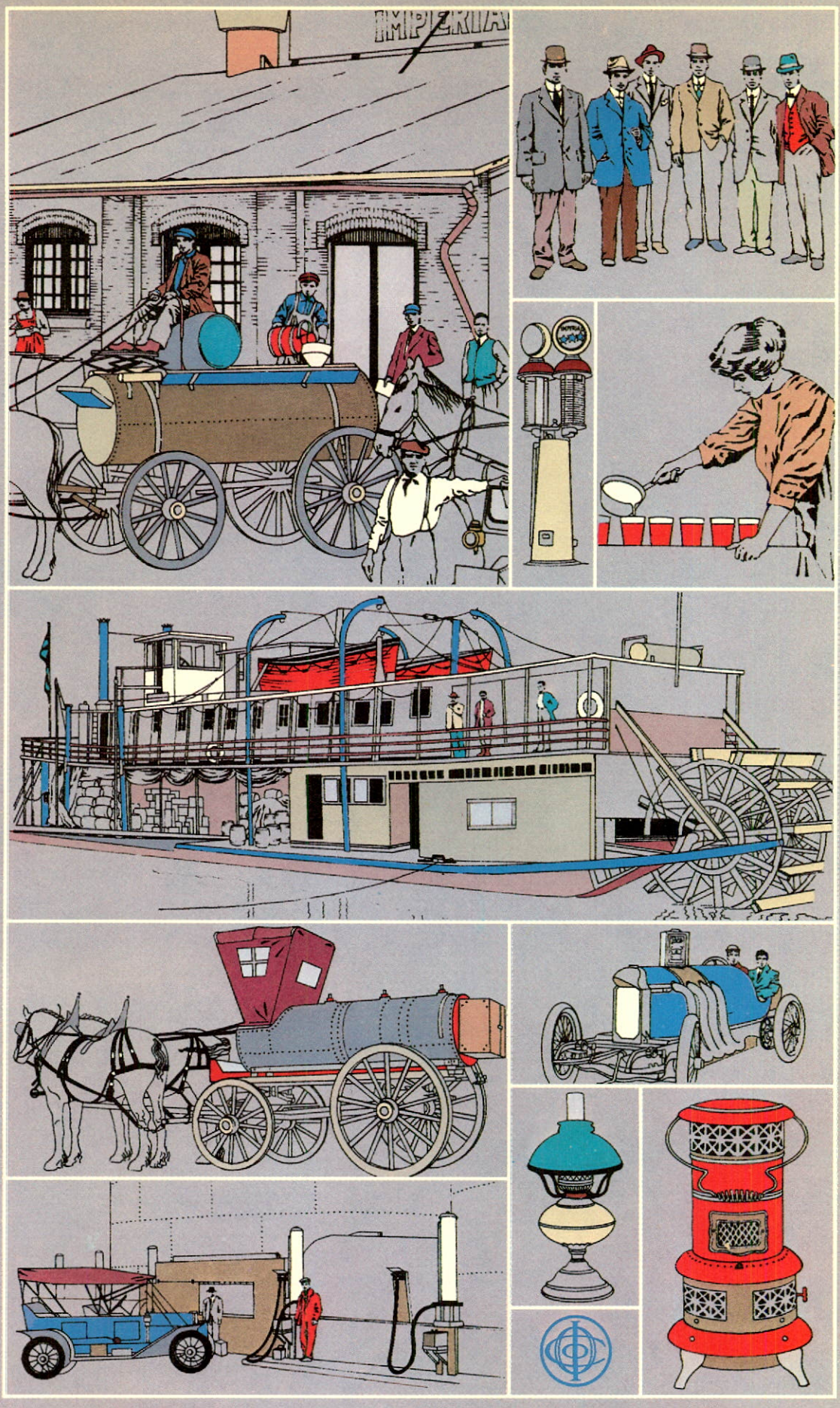
a $40-million investment that reduced refinery fuel needs and increased the yield of high-value products, on which the company concentrated its sales efforts;

the completion of $40-million water-treatment facilities to meet environmental standards at company refineries.

Summary

Earnings from operations in petroleum products have been depressed for many years. In 1979, the company's earnings from this segment were more than double the 1978 results, due mainly to higher margins on petroleum products and increased sales as well as to operating efficiencies. As a result, the return on capital employed was better in 1979.

Capital expenditures of $102 million in 1979 were an increase of 19 percent over the 1978 figure. These investments were made to reduce fuel consumed in operations, improve product yield through enlargement or replacement of manufacturing facilities, improve environmental controls at refineries, and continue efficiencies in marketing and distribution installations.

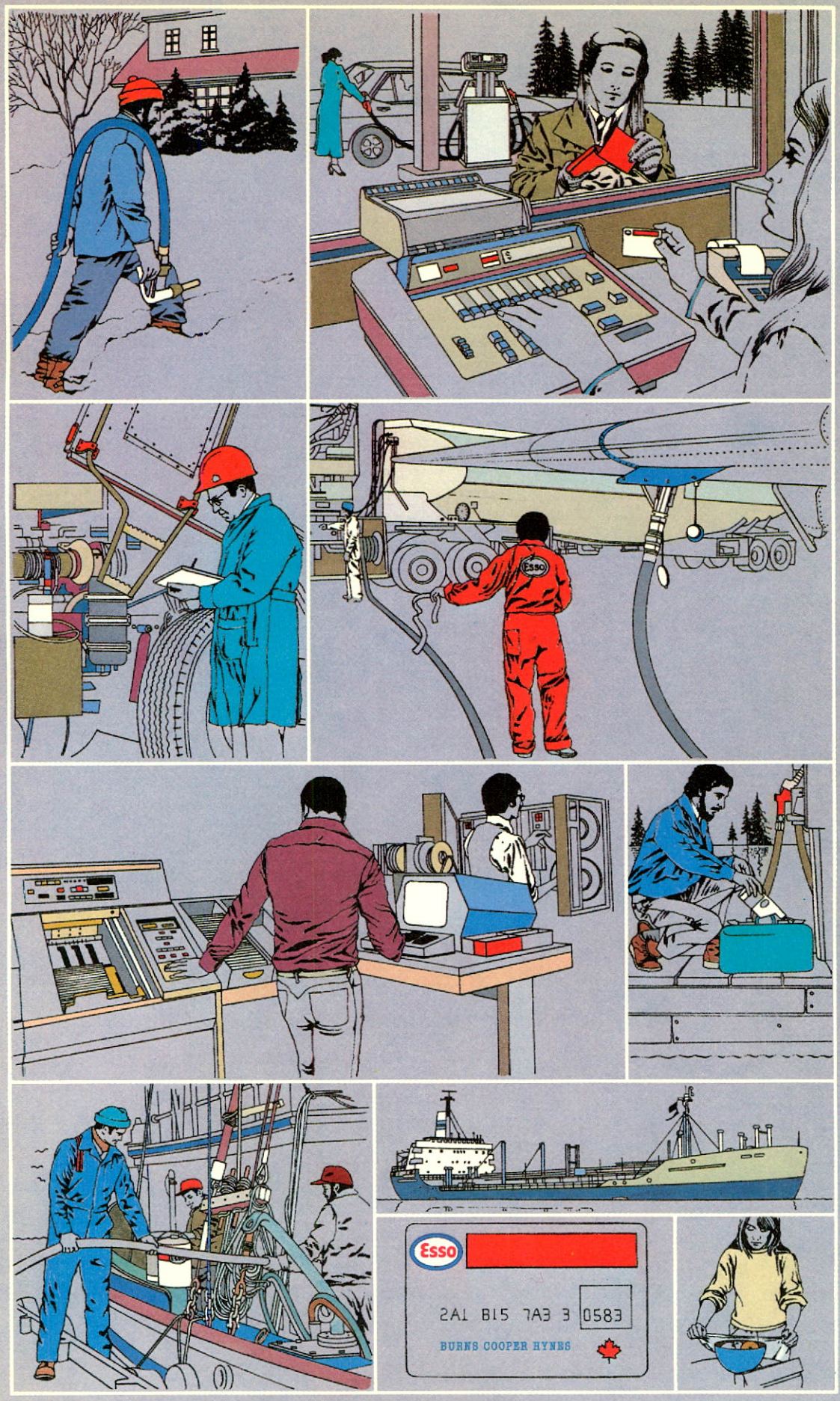


In Imperial's early years, delivery of products was a fairly simple matter. Tank wagons were loaded manually at Sarnia refinery before setting out to deliver kerosene to waiting customers. At a 1910 convention in British Columbia, the entire Imperial sales staff for southern Alberta stood together for a photographer.

During the early 1920s, a gasoline pump had to be operated by hand. When lamps replaced candles, the demand for paraffin dropped off but the product was still used for church candles and at home in the sealing of preserves.

Company products traveled to remote communities in northern Ontario on the paddle-wheeler Northland Echo early in this century. About the same time, gasoline tank wagons made an appearance, delivering this fuel to hardware or grocery stores. Gasoline became more popular than kerosene, thanks to the horseless carriage, and in 1907 the company started Canada's first gasoline station in Vancouver. In the same city six years later, Bob Burman sat in his Blitzen Benz race car smiling with Imperial's E. B. Connor. He'd just set a new Canadian speed record of one mile in 50.8 seconds–using the company's Polarine oil and Premier gasoline.

Even today, kerosene is still widely used in decorative lamps and portable stoves.



Today's delivery systems are complex, but home delivery of heating oil is taken for granted. Esso self-serve stations are commonplace too, with computerized controls that turn the pumps on and off and record the sale in price and litres on a screen.

Imperial continues to service the country's large industrial customers. Fleets of big diesel trucks require servicing with lubricants to keep running smoothly; turbo fuel is pumped into jets at airports.

In the Ontario credit-card centre, skilled people operate a modern computer terminal. In 1979, more than eight million Esso bills were mailed out of here. This advanced system allows for fast replies to customer enquiries.

A small outboard or a huge ocean-going ship–they both have one thing in common: Imperial sells the fuel that keeps them moving. With its own ships on both coasts and in the Great Lakes, the company delivers its products to major ports throughout Canada.

In the kitchen, the company's Stretch 'n Seal– a petrochemical product–is a popular convenience.

Petroleum products

Marketing and refining

The Canadian petroleum industry was faced with problems of limited crude supply, refinery breakdowns, and an increase in demand for products in 1979. Despite these conditions, Imperial operated its refineries and other facilities at their practical limits during the year, meeting the needs of all its own customers and providing assistance to other companies in the industry as well.

Imperial's sales of petroleum products in 1979 increased by five percent over 1978 sales and prices increased in all markets. In eastern Canada particularly, prices had been severely discounted and rates of return were inadequate for several years. The continued growth in demand, coupled with worldwide restrictions on crude supply, resulted in reduced discounts and higher prices.

The increased earnings from the petroleum-products segment in 1979 are also attributable to a number of operating changes. Research in refinery operations and selection of appropriate feedstocks have enabled the company to develop processes that increase the yield per unit of crude of high-value products – lubricating oils, gasolines, diesel fuels, and aviation fuels – and the company concentrated its efforts to increase sales of these products.

Three new products introduced in 1978 – Esso Extra Unleaded gasoline, New Formula Uniflo motor oil, and the energy-efficient Esso Econoblue furnace – completed a full year of sales in 1979. Results achieved were above expectations and this strong performance is expected to continue in 1980.

The ability of Imperial's refineries to process a greater variety of crude oils, including upgraded crudes, improved in 1979. The refineries at Vancouver, Edmonton, and Montreal processed upgraded crudes from the Alberta oil sands and changes were made to the Dartmouth refinery in Nova Scotia to increase its ability to process a greater variety of crudes.

A new computer system for product-distribution terminals was introduced in 1979. The system provides large-volume customers with fast, accurate billing of their purchases and reduces the time drivers spend in the terminals. The company spent $3 million in 1979 to install the system at nine terminals. It will be installed at the company's 43 major terminals by 1982 at a cost of $10 million.

A new, fully computerized terminal began operating in conjunction with the Strathcona refinery in 1979. It cost $11 million and has increased the terminal's capacity to handle tank trucks.

To increase sales in the do-it-yourself market, Imperial began shifting to plastic in the packaging of many of its automotive products in 1979. Plastic packages are easier for the customer to use and their greater toughness will virtually eliminate losses from leaks through damage in shipping.

To protect the environment and safeguard public health, Imperial complies with all regulations that apply to its operations and products. The company also takes a lead in developing better methods of control. An example is the completion of new water-treatment facilities at the Montreal and Dartmouth refineries in 1979. The installation cost $40 million and enabled these two refineries to meet government standards in advance of 1980 target dates, which the company's other refineries had previously met.

The training of company personnel in the prevention and handling of oil spills is a regular part of Imperial operations. During 1979, a total of 264 persons working in the company's petroleum-products segment received this training.

During the year, Imperial's research continued to concentrate on the development of products that will enable customers to use energy more efficiently, thus contributing to energy conservation. Products and equipment under development in 1979 included more efficient oil burners for home use, fuel-saving lubricants, and gasoline formulations to meet the changing requirements of automobiles.

(continued from page 20)
serve station. Located in Edmonton, it was called a "gasoteria."

Tied in with these petroleum operations was a field in which Imperial has gained much respect: research. In 1924, the company hired Dr. R. K. Stratford, a talented young scientist, to do research on petroleum products and processes. Four years later, a full-fledged research department was formed, with Stratford in charge. He and his associates worked to make refining processes more efficient and to develop better products. In the late twenties, they developed the phenol-treating process for making lubricating oils that was used around the world. In 1975, it was superseded by a new process – Exol N – also developed at Sarnia. Today, the company's research has expanded to include the processing of heavy oils into upgraded crudes, research into the effectiveness of systems to collect and store solar energy, and the development of energy-saving lubricants. Imperial's research department is the oldest and largest petroleum-research organization in Canada.

In 1936, the company brought Canada its first gasoline credit card. After World War II, a dramatic change affected petroleum marketing. The "baby boom" and economic growth led to the rise of the suburbs – and with this came an unprecedented increase in the number of cars and of gasoline stations to serve them. In 1963, the company established the first electronic-analysis car clinic. The late sixties brought car washes and Voyageur Restaurants to Imperial service stations. Customer's needs continued to change, and in 1971 Imperial opened its first modern self-serve station. In 1978, the company introduced Canada's first unleaded premium gasoline – Esso Extra Unleaded – and a new mileage-stretching motor oil – New-Formula Uniflo. Imperial's dealers adapted quickly to all these changes, making sure the company remained a leader in sales.

For a lifetime, Imperial and gasoline have virtually been synonymous and the company enters its second century as the largest gasoline retailer in Canada.

The growth of chemicals

Since its beginning, Imperial has grown by developing a wide variety of useful products derived from petroleum. In the early decades, this development included such products as candles, greases, paraffin wax, asphalt, and Varsol solvent.

It wasn't until the 1940s, however, that the company became involved in a project that is clearly related to the modern petrochemical industry. In 1944, with supplies of natural rubber cut off by the war, Imperial joined the federal government and a number of other companies in building and operating a plant to produce synthetic rubber in Sarnia. After the war, much of Imperial's attention was concentrated on finding domestic sources of oil. But the company's interest in the chemical business remained high and, in 1955, a chemical department was formed at Imperial.

It was a modest beginning. Clayton Beamer, who had been working in petrochemicals since 1929, was joined by two Imperial Oil employees – Wes Stewart and Tom Doherty – to study investment opportunities in the chemicals field. As a result of their efforts, a detergent-alkylate plant was opened in 1957 at Sarnia, making Canadian supplies of detergents available to soap manufacturers for the first time. To gauge the effectiveness of the detergent, researchers in Sarnia devised a test of beguiling simplicity; they washed stack after stack of dirty dishes.

The following decade was one of rapid growth in chemical investment. In 1958 the company opened a $29-million ethylene plant in Sarnia – the most advanced of its kind and the largest in Canada. Through that plant, petroleum could be turned into a basic chemical building block used to make fabrics, rubber, plastics, paints, adhesives and thousands of other products. Facilities to produce other petrochemicals were added in Sarnia and at other locations in British Columbia, Quebec, and Nova Scotia. In 1967, Imperial completed the largest investment in the company's

(continued on page 31)

Chemicals

The company manufactures and sells petrochemicals, plastic resins, fertilizers, building materials, and synthetic cordage through Esso Chemical Canada, a division of Imperial Oil Limited.

Financial and operating statistics	1978	**1979**
		millions of dollars
Earnings from operations	20	**68**
Capital expenditures	18	**26**
Capital employed	196	**217**
Revenue:		
Petrochemicals and plastic resins	231	**382**
Fertilizers	112	**150**
Building materials	146	**169**

Highlights

The most noteworthy features of Esso Chemical's operations during the year were:

a significant increase over 1978 earnings, after a period of modest returns;

an increase in capacity to manufacture polyvinyl-chloride resin, with further increases planned;

the announcement of plans for a $300-million project to manufacture ammonia and urea fertilizers;

the announcement of additional capacity to manufacture vinyl siding through a new plant to be built in Calgary;

the completion of feasibility studies for a proposed major plant to produce low-density polyethylene at Sarnia, Ont.;

the start of a feasibility study of a world-scale aromatics plant for Alberta, being conducted jointly with the Alberta Energy Company Ltd.

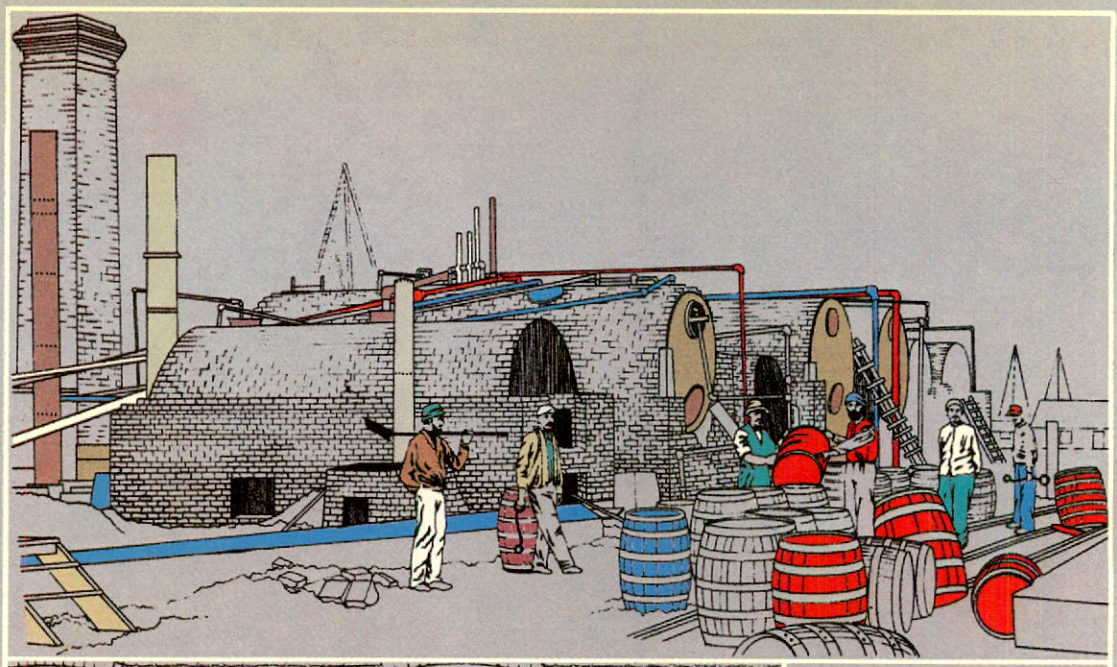
Summary

Earnings from operations in chemicals were $68 million in 1979. This is a significant increase over 1978 results. It comes after a period of modest returns and is a record for the division. The earnings came mainly from higher prices, plus improvements in efficiency and greater production, partially offset by higher costs. Market conditions have improved and this gives Esso Chemical an incentive to consider new investments. Capital expenditures are expected to reach a total of $307 million over the next three years.

Capital expenditures were $26 million in 1979, 44 percent more than the previous year. The money was spent to increase operating efficiency, conserve energy, improve on-the-job safety, and provide greater protection for the environment.

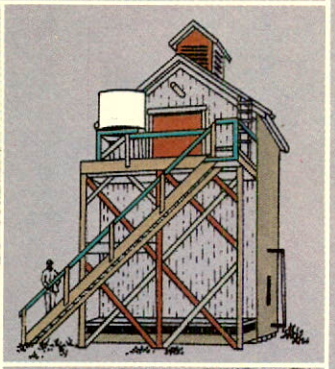
Sales revenue for Esso Chemical in 1979 was $212 million higher than in 1978. Demand for virtually all products remained strong throughout the year and the division's manufacturing plants operated at full capacity. Exports accounted for 17 percent of total sales revenue, the same percentage as in 1978.

Disruptions outside Canada reduced the availability of chemical feedstocks in 1979, while demand for petrochemicals, plastic resins, fertilizers, and some building materials continued to grow both outside the country and at home. This tighter market caused prices to rise, resulting in higher earnings and full recovery of increased operating and raw-material costs.



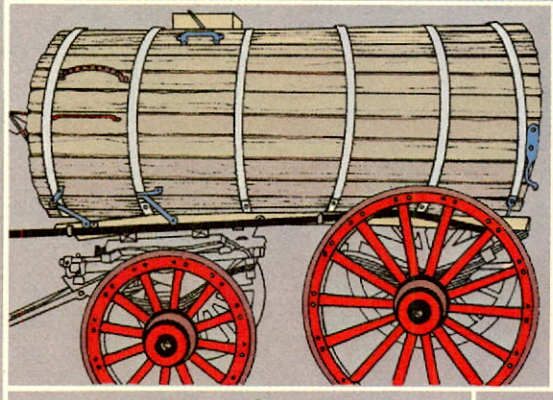
Simple reducing stills at Imperial's Petrolia, Ont., refinery in the early 1880s were used to convert the crude into its various products. Early refineries turned out kerosene, lubricating oils, axle greases, and waxes. In 1897, the management of the company's Sarnia operation got together to pose for a photograph.

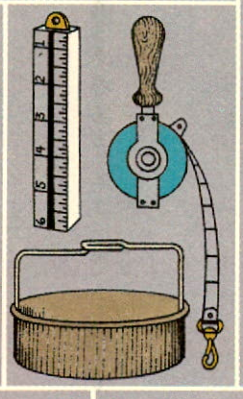
A treating house was used to extract strong-smelling sulfur from Canadian crude in the 1890s. At the producing well, oil was pumped by hand into a special tank wagon that would carry it to the refinery.



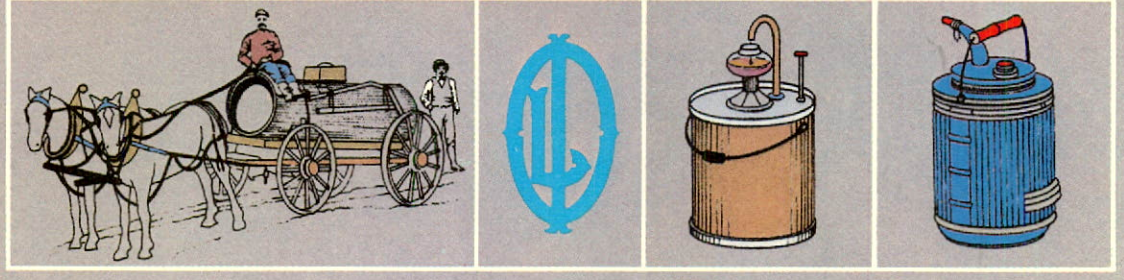
Water collected in the bottom of oil storage tanks, so a brass plumb bob with a water-sensitive coating was dropped down inside to measure the level of water under the oil. By lowering a copper cup on a measuring tape, the gauger could find out how much product remained in a tank.

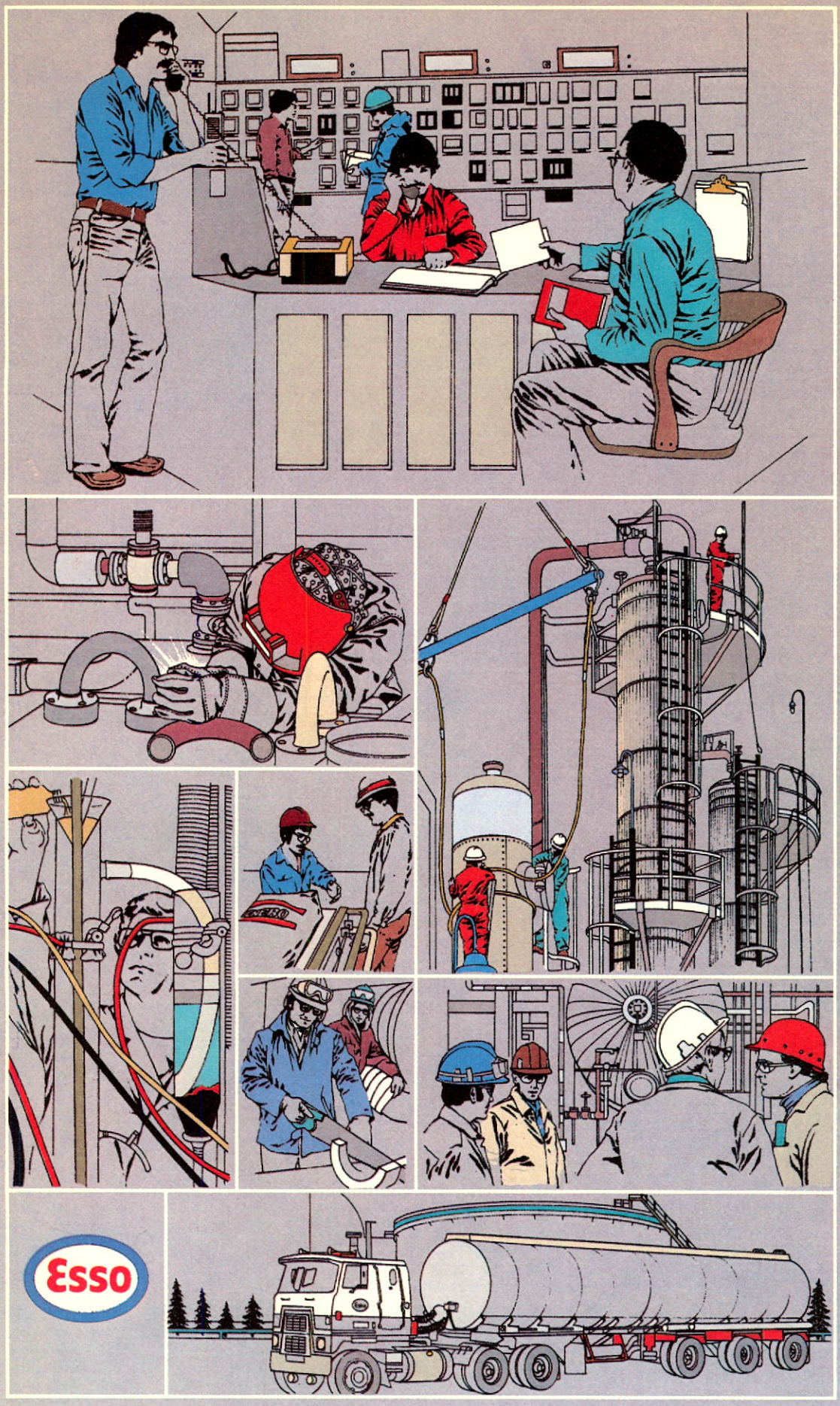
At Sarnia refinery from 1899 to 1934, skilled workers called coopers made barrels out of oak and gumwood staves, bound with iron hoops, until the cooperage was replaced by a steel-drum plant. A special wagon was developed to haul barrels of product around the refinery and to the railroad station for loading.





In 1880 there were specially made oil cans too; one had a spout to fill kerosene lamps and the other was used for lubricating oil in the refinery.





Today's modern petrochemicals operation grew out of the early refining processes of a century ago, and many processes for making petroleum products and chemicals are similar. At the company's large chemical plant in Sarnia, Ont., operators run manufacturing processes from a central control room. A welder puts together a heat exchanger, and the plant's process towers dwarf the men standing on them.

A technician in the research department at Sarnia works on waste-water treatment. Fertilizer is loaded at the company's Redwater, Alta., production plant. Esso Chemical Canada is applying for permits to build an ammonia-urea fertilizer plant. If the project is given the go-ahead, the $300-million plant would be operating by 1983.

Workers cut pipe insulation as part of an energy-conservation program. In Sarnia, a member of management discusses production with engineers at the plant site. A huge truckload of Varsol leaves the plant, ready to be packaged and sold across the country–just one of thousands of Esso Chemical Canada's products.

Petrochemicals and plastic resins
Revenue from the sale of petrochemicals and plastic resins was $382 million in 1979, an increase of 65 percent over the previous year. Chemical raw materials, intermediates, and solvents accounted for 89 percent of this increase. Revenue from the sale of plastic resins increased by 19 percent over the previous year. Disruptions in the supply of international crude oil reduced the availability of petrochemical feedstocks throughout the world in 1979 and this prevented chemical producers in the United States and elsewhere from operating at rates sufficient to meet demand. The resulting tightness in supply increased the prices of many petrochemical products around the world.

In 1979, the company signed a long-term contract to buy vinyl-chloride monomer from Dow Chemical of Canada Limited. Vinyl-chloride monomer is the raw material for polyvinyl-chloride resin. Esso Chemical increased its capacity for making this resin to 48 000 tonnes per year during 1979. Further increases in capacity are planned.

The company completed feasibility studies in 1979 for a $100-million plant of world scale to produce low-density polyethylene, which is used mainly in the manufacture of plastic film. The plant would be located on Esso Chemical's site at Sarnia, Ont., and would employ a licensed technology that uses only 25 percent of the energy of the conventional process.

In July, Esso Chemical joined the Alberta Energy Company Ltd. in studies of the feasibility of building a world-scale aromatics plant in Alberta. Aromatics are raw materials used in the manufacture of paints, adhesives, and synthetic resins, among other products. These studies are expected to be completed in the second quarter of 1980.

Fertilizer
Fertilizer sales were more than 744 000 tonnes in 1979, an increase of more than 13 percent over 1978 volumes. Revenue was $150 million, an increase of 34 percent over 1978.

Demand for fertilizer in western Canada continued to increase in 1979 and fertilizer plants operated at full capacity. Seventy-nine percent of production was sold in western Canada and the balance was exported, mainly to the United States.

The demand for fertilizer in western Canada and that segment of the U.S. market accessible to Canadian production exceeds manufacturing capacity. This is particularly true for the ammonia and urea fertilizers. Consequently, Esso Chemical announced its intention late in 1979 to apply to the Alberta Energy Resources Conservation Board for permits to build a plant that will increase the division's capacity to manufacture ammonia and to begin making urea. The new plant is expected to cost $300 million.

Building materials
Building Products of Canada Limited is a wholly owned subsidiary that manufactures and sells building materials and, through its Poli-Twine division, polypropylene rope and twine.

Sales revenue was $169 million in 1979, up 16 percent over 1978. The increase reflects higher prices for products, although these were offset to a large extent by increased costs. Export sales, mainly of roofing and paper products sold in the United States, were about the same as in 1978.

Sales revenues from building-insulation products increased by about 14 percent in 1979.

Sales revenues from ESCLAD vinyl house siding increased in 1979 by more than 53 percent over 1978 figures. Construction of a $3-million plant to make vinyl siding in Calgary was announced in 1979.

Sales revenues from ESLOK baler twine, POLYTIE twine, and ESCORD rope in 1979 were up 77 percent over 1978 figures.

A new medium weight roofing shingle – Roofmaster – was introduced in Ontario in 1979. It will be sold throughout Canada in 1980, mainly in the building-renovation market.

(continued from page 26)
history to that time when it opened a $50-million fertilizer complex in Redwater, Alta.

By 1970, the chemical operations had grown to make Imperial one of the largest producers of petrochemical products in Canada. In that year, Esso Chemical Canada was established as a separate division of Imperial to manage its chemical operations.

Now in its 10th year, the division has a bright future. Energy costs have created a strong demand for plastics to replace metal in lightweight cars and for insulation for homes and office buildings. Fertilizer operations are expanding. Opportunities exist that can increase Esso Chemical's capital expenditures during the next three years by more than $300 million.

Imperial's other side

To grow and prosper, the company has had to depend on the people who work for it, and employees have long had a voice at Imperial. In 1918, Joint Industrial Councils were established to provide elected employee representatives with a chance to discuss wages, hours, working conditions, and grievances with management. That same year, women were employed for the first time in Sarnia's testing laboratories.

More employee-oriented programs followed in 1919. An eight-hour working day was introduced – the first in Canada. For anybody who had been with the company a year or more, there was now a life-insurance policy. Annuitants weren't left out either; Imperial had its own old-age pension. In addition, a benefit plan was begun, providing for illness not covered by Workmen's Compensation and for injuries that happened off the job.

Imperial adopted the five-day work week in 1932. It was the second company in Canada to do so. Five years later, employees were given holidays with pay. In 1939, the company savings plan was started and, over the years, has become more comprehensive. Experiments with extended working hours were instituted in November, 1971, at the Don Mills, Ont., office where employees tried a four-day work week. At other locales across the country, four-day and even three-day weeks came into operation. The weeks were shorter but the days were longer so that the number of hours remained the same. In 1973, Imperial began experimenting with flextime at the research department in Sarnia, permitting employees to come and go at times more convenient to themselves. The offices were staffed, but employees kept track of their own hours and enjoyed greater flexibility than a rigid 9-to-5 routine allowed. And productivity increased. The practice is now standard in most company offices.

The company also led the way in environmental protection. During the 1930s, Imperial chemist Alex McRae took samples of river water near the

(continued on page 37)

Summary of accounting policies

Principles of consolidation
The consolidated financial statements include the accounts of Imperial Oil Limited and its wholly owned subsidiary companies. All inter-company accounts and transactions have been eliminated. A list of subsidiary companies is shown on page 52.

Imperial's proportionate share of the revenues, expenses, assets, and liabilities of the Syncrude project are included in the accounts.

Inventories
Inventories of crude oil and products are recorded at cost using the first-in, first-out method, which is less than net realizable value.

Materials and supplies are recorded at the lower of cost and net realizable value.

Investments
The principal investments in other companies are accounted for on the equity basis. Imperial's share of the net assets of these companies is recorded in the consolidated balance sheet as "Investments." Imperial's share of their earnings after income taxes is included in the consolidated statement of earnings with "Investment income and other operating revenue."

Other investments are recorded at cost and income from them is recorded only as dividends are declared.

The ownership percentages of Imperial's principal investments are shown on page 52. The amount at which all investments are recorded is shown in Note 4 of the notes to the financial statements.

Property, plant, and equipment
Property, plant, and equipment are recorded at cost and so carried until sold or otherwise disposed of.

Imperial follows the successful-efforts method of accounting for its exploration and development activities. Costs of exploration acreage are capitalized and amortized over the period of exploration or until a discovery is made. Other exploration costs, including dry holes, are charged against earnings as incurred. All costs of development wells and successful exploration wells are capitalized.

The costs of maintenance and repairs are charged to current operating expense but improvements that increase the service capacity of an asset or prolong its service life beyond that contemplated in the established rates of depreciation are capitalized.

Depreciation of plant and equipment is calculated using the straight-line method, based on the estimated service life of the asset. Amortization of the costs of capitalized producing wells and leases and of the capitalized costs of the Syncrude project is calculated using the unit-of-production method.

Gains or losses on assets sold or otherwise disposed of are included in earnings.

Federal import compensation
Amounts received or claimed under the federal compensation program for oil imports are deducted from the cost of purchasing crude oil and products. Imperial has maintained its selling prices in accordance with federal government guidelines in order to be eligible for this compensation.

Taxes other than income taxes
The special gasoline excise tax, federal sales tax, and other taxes are included in "Taxes other than income taxes" in the consolidated statement of earnings.

Taxes levied on the consumer and collected by Imperial, primarily provincial taxes on motor fuels, are excluded from "Petroleum products" in the consolidated statement of earnings, as is the federal tax on exports of crude oil and petroleum products.

Translation of foreign currencies
Long-term monetary liabilities payable in foreign currencies have been translated at the rate prevailing on Dec. 31. Exchange gains and losses arising on translation of long-term debt are amortized over the remaining term of the debt.

Financing costs
The discount and expenses on each debt issue are amortized over the term of the issue using the straight-line method. At the time of prepurchase or redemption, any unamortized balance of discount and expenses relating to the debentures is charged to earnings. Any gain or loss on the redemption or prepurchase is included in the statement of earnings.

Imperial Oil Limited

Consolidated statement of earnings for the years 1978 and 1979

	1978	**1979**
		millions of dollars
Revenues		
Crude oil and natural gas (including sale of purchased crude: 1978 – $1519; 1979 – $1645)	1697	**1873**
Petroleum products	3308	**3872**
Chemicals	468	**673**
Investment income and other operating revenue	170	**205**
	5643	**6623**
Expenses		
Purchases of crude oil and products	3536	**3844**
Operating and exploration	553	**853**
Marketing and administration	476	**520**
Interest (Note 9)	33	**56**
Depreciation and amortization	112	**132**
Income taxes (Note 2)	247	**332**
Taxes other than income taxes	372	**415**
	5329	**6152**
Earnings from operations	314	**471**
Extraordinary gain on sale of 20 percent of the company's interest in the Syncrude project, net of income taxes of $24 million (Note 3)	–	**22**
Earnings for the year	314	**493**
		dollars
Earnings per share		
from operations	2.41	**3.61**
total	2.41	**3.78**

The summary of accounting policies and notes to the financial statements are part of this statement.

Consolidated balance sheet as at December 31, 1978 and 1979

	1978	1979
	millions of dollars	
Assets		
Current assets:		
Cash, including short-term deposits	146	**249**
Marketable securities, at the lower of cost and market	13	**40**
Accounts receivable	657	**800**
Inventories of crude oil and products	550	**622**
Materials, supplies, and prepaid expenses	84	**106**
	1450	**1817**
Investments (Note 4)	102	**110**
Long-term accounts receivable and other assets	43	**40**
Property, plant, and equipment, at cost, less accumulated depreciation and amortization: (1978–$1169; 1979–$1279) (Note 5)	2298	**2688**
Total assets	3893	**4655**
Liabilities		
Current liabilities:		
Short-term notes (Note 6)	106	**38**
Accounts payable and accrued liabilities (Note 7)	608	**755**
Income and other taxes payable	194	**125**
	908	**918**
Long-term debt and other obligations (Note 8)	322	**597**
	1230	**1515**
Deferred income taxes (Note 2)	577	**700**
Shareholders' equity		
Capital stock (Note 10)	289	**300**
Earnings retained and used in the business:		
At beginning of year	1607	**1797**
Earnings for the year	314	**493**
Dividends (dollars per share: 1978–$0.95; 1979–$1.15) (Note 10)	(124)	**(150)**
At end of year	1797	**2140**
Total shareholders' equity	2086	**2440**
Total liabilities, deferred income taxes, and shareholders' equity	3893	**4655**

The summary of accounting policies and notes to the financial statements are part of this statement.

Approved by the board

Chairman and chief executive officer *President*

Imperial Oil Limited

Consolidated statement of changes in financial position for the years 1978 and 1979

	1978	1979
	millions of dollars	
Funds were provided from:		
Operations (a)	571	**906**
Proceeds from sales of property, plant, and equipment	18	**193**
	589	**1099**
Funds were used for:		
Dividends	124	**150**
Increase (decrease) in non-cash working capital	(67)	**159**
Reduction of long-term debt	10	**16**
	67	**325**
Funds remaining for reinvestment	522	**774**
Capital and exploration expenditures	535	**879**
	(13)	**(105)**
Additional funds from financing:		
Long-term debt	–	**292**
Capital stock	–	**11**
	–	**303**
Increase (decrease) in cash, marketable securities, and short-term notes	(13)	**198**
Change in non-cash working capital:		
Accounts receivable	34	**143**
Inventories and prepaid expenses	101	**94**
	135	**237**
Accounts payable and income taxes	(202)	**(78)**
Increase (decrease) in non-cash working capital	(67)	**159**

(a) Funds from operations comprise earnings from operations before exploration expense (1978 – $116 million; 1979 – $210 million) adjusted for depreciation, deferred income taxes, and other items not affecting working capital.

The summary of accounting policies and notes to the financial statements are part of this statement.

Auditors' Report

To the shareholders of Imperial Oil Limited:

We have examined the consolidated statements of earnings and changes in financial position of Imperial Oil Limited for the year ended December 31, 1979 and the consolidated balance sheet as at that date. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the results of operations and changes in financial position of the company for the year ended December 31, 1979 and its financial position at that date in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Price Waterhouse & Co

Chartered Accountants,
Toronto-Dominion Centre,
Toronto, Canada
February 25, 1980

(continued from page 32)
Sarnia refinery. He tested the water for impurities and sought ways to reduce them. By 1955, the company had discovered an effective means of treating refinery waste waters by using micro-organisms. The process is in common use in refineries throughout the world today.

Imperial has often been ahead of government legislation designed to protect the environment. For example, in 1963, Imperial ships sailing the Great Lakes were ordered to keep all their garbage on board for disposal ashore. Almost eight years later, the government imposed similar regulations on all ships.

The company has taken an interest in the health of its employees from its earliest days. In 1920, there was a full-time doctor at the Dartmouth refinery. Imperial offered free medical exams to employees in 1947. Six years later, the company hired Canada's first full-time industrial hygienist to monitor the effects of Imperial's operations on people and the environment. Today, Imperial employs four industrial hygienists, one of the largest groups of these specialists working for a private company in Canada.

On different occasions, the company has used its resources to help those outside of Imperial. When the price of wheat dropped by a third during the Depression, Prairie farmers were having trouble paying their debts. Imperial supplied products to them on credit for the first time, then canceled interest charges on their overdue bills and extended payment time to five years.

Imperial was for many years deeply involved in what might seem a rather unlikely field: hockey. On Nov. 7, 1936, the first Imperial Oil Hockey Broadcast went on the radio, with Foster Hewitt calling the play-by-play. The following year, the company hired a separate Quebec network to broadcast the games in both French and English. It was in 1952 that the first Canadian telecast of an NHL game went on the air, once again supported by Imperial. Although the company dropped its sponsorship of hockey in 1976, the selection of three stars still

commemorates Imperial's association with hockey – they are named after an early brand: Imperial 3-Star gasoline.

Over the years, the company has supported activities of social and cultural importance as well as health, welfare, and community services. Grants have been given to ballet companies, theatre troupes, symphony orchestras. Imperial also aids education, with direct contributions to universities as well as annual fellowships for graduates.

The critically acclaimed film series, *The Newcomers*, which was commissioned to mark the company's centennial, represents the culmination of Imperial's sustaining role in Canadian filmmaking. Since 1948, when it supported the making of *The Loon's Necklace* – Canada's most famous short film – the company has underwritten the cost of producing many films that dealt with Canadian themes. This program has been recognized as a genuine contribution to the film industry in this country. *The Newcomers* was the most ambitious venture to date, created by some of Canada's best actors, writers, and directors.

And there is *The Review*. In 1917, the first issue of *The Imperial Oil Review* appeared. It was sent to 5000 employees to inform them of new developments in their company. In June, 1923, the magazine devoted an entire issue to women and their contribution to the organization. During 1924, a series was published with one issue devoted to each of the provinces. Since its inception, *The Review* has published the work of many of the country's finest writers, artists, and photographers. The magazine has won numerous awards for excellence from all over the world.

Notes to the financial statements

1. Business segments
Imperial is engaged primarily in the exploration for and development of natural resources, and the manufacturing and marketing of petroleum products, petrochemicals, fertilizers, and building materials. Segmented financial information is shown in the financial summary on page 48.

2. Income taxes	1978	**1979**
		millions of dollars
Current	177	**209**
Deferred	70	**123**
	247	**332**

The operations of the company are complex and the related income-tax interpretations, regulations, and legislation are continually changing. As a result, there are usually some tax matters in question. The company believes the provision made for income taxes is adequate.

Summary of tax calculations	1978	**1979**
		millions of dollars
Earnings from operations before income taxes	542	**779**
Income taxes at basic corporate tax rate	258	**372**
Income taxes as a percentage of earnings before income taxes: 1978 – 47.6; 1979 – 47.8		
Add:		
Non-deductible crown royalties and other similar payments to governments	206	**243**
	464	**615**
Deduct:		
Resource allowance	117	**133**
Depletion allowance	68	**98**
Provincial adjustments	16	**26**
Manufacturing and processing credit	5	**13**
Other	11	**13**
Income-tax expense	247	**332**
Effective tax rate applied against earnings: 1978 – 45.6 percent; 1979 – 42.6 percent		

Summary of yearly changes in deferred taxes	1978	**1979**
		millions of dollars
Capital cost allowance	47	**37**
Successful drilling	11	**44**
Land-acquisition costs	22	**9**
Drilling in progress	3	**23**
Other	(13)	**10**
Total	70	**123**

3. Option of Alberta Energy Company Ltd.
On Aug. 30, 1979, the Alberta Energy Company Ltd. exercised its option to purchase 20 percent of the participating interests in the Syncrude project. As a result, the company's interest in the Syncrude project was reduced from 31.25 percent to 25 percent.

4. Investments
The principal investments are primarily in companies engaged in pipeline transportation of crude oil and petroleum products. The following table gives further details concerning the financial information in the Consolidated financial statements.

	1978	**1979**
	millions of dollars	
At equity value:		
with quoted market value of $142 million at Dec. 31, 1978; $171 million at Dec. 31, 1979	75	**82**
without quoted market value	19	**20**
At cost	8	**8**
	102	**110**
Earnings, net of income taxes	19	**24**
Dividends	15	**17**

5. Property, plant, and equipment

	Cost		Accumulated depreciation and amortization	
	1978	**1979**	1978	**1979**
	millions of dollars			
Natural resources				
Exploration and production	977	**1424**	371	**413**
Heavy oil	670	**578**	18	**28**
Minerals	10	**39**	1	**1**
	1657	**2041**	390	**442**
Petroleum Products				
Refining	1002	**1063**	387	**421**
Marketing	477	**483**	213	**217**
	1479	**1546**	600	**638**
Chemicals	256	**282**	147	**161**
Other	75	**98**	32	**38**
	3467	**3967**	1169	**1279**

6. Short-term notes

The month-end average of all short-term debt outstanding during 1979 amounted to $135 million (1978 – $30 million). The maximum amount of short-term notes outstanding at the end of any month was $196 million (1978 – $106 million). The monthly weighted-average interest rate for 1979 was 11.34 percent (1978 – 9.50 percent). At Dec. 31, 1978, short-term notes included $44 million outstanding with an affiliated company.

7. Amounts owing to affiliated companies

Included in "Accounts payable and accrued liabilities" are amounts owing to affiliated companies of $95 million at Dec. 31, 1979 ($52 million at Dec. 31, 1978). All of these amounts arose in the normal course of operations.

In order to maintain supplies to customers, crude oil, refined petroleum products, and petrochemicals are purchased and sold between the company, Exxon Corporation, and affiliates of Exxon Corporation. In addition, technical and engineering services are performed and received, and the company also hires ocean tank vessels from affiliates of Exxon. The net cost to the company for all these purchases and sales with Exxon and its affiliates amounted to $526 million in 1979 (1978 – $487 million).

8. Long-term debt and other obligations

In September, 1979, Imperial borrowed $250 million in U.S. funds in the United States through 30-year 9¾% Sinking Fund Debentures to repay existing short-term debt and to finance continued exploration and development of Canadian energy resources.

Beginning in 1990, the company is obligated to make sinking-fund payments sufficient to retire $12 million (U.S.) of the debentures annually, or approximately 90 percent of the debentures prior to maturity. Imperial has the option to increase the annual sinking-fund payment by as much as $18 million (U.S.) in any year.

	1978	**1979**
		millions of dollars
6¾% Sinking Fund Debentures, 1967 issue, maturing Jan. 2, 1987	27	**24**
7⅜% Sinking Fund Debentures, 1968 issue, maturing Jan. 2, 1988	30	**28**
8½% Sinking Fund Debentures, 1969 issue, maturing Aug. 15, 1989	16	**15**
6⅞% Serial Debentures, 1972 issue, maturing Feb. 15, 1980 to Feb. 15, 1981	7	**5**
7¾% Sinking Fund Debentures, 1972 issue, maturing Feb. 15, 1992	35	**35**
10⅝% Sinking Fund Debentures, 1974 issue, maturing Aug. 15, 1994	100	**94**
9¾% Sinking Fund Debentures, 1975 issue, maturing Feb. 15, 1995	100	**98**
9¾% Sinking Fund Debentures, $250 million U.S., 1979 issue, maturing Sept. 15, 2009	–	**292**
Total long-term debt	315	**591**
Amount due within one year	2	**2**
	313	**589**
Other long-term obligations	9	**8**
	322	**597**

Sinking-fund and maturity payments required during the next five years are: 1980 – $2 million; 1981 – $13 million; 1982 – $19 million; 1983 – $19 million; 1984 – $19 million.

Notes to the financial statements
(continued)

9. Interest

	1978	1979
	millions of dollars	
Interest on long-term debt	29	**37**
Interest on short-term notes	3	**16**
Other	1	**3**
Total interest expense	33	**56**

10. Capital stock

Number of shares	Class A	Class B
Authorized	160 000 000	
Issued:		
Dec. 31, 1978	35 168 415	95 099 714
Dec. 31, 1979	126 310 745	4 335 156

Each class of shares is voting, convertible into one another on a share-for-share basis, and ranks equally with respect to dividends and in all other respects.
By articles of amendment dated April 24, 1979, the provisions of the Class A and Class B convertible shares were amended to provide for the payment of the Class B dividend by way of a stock dividend of Class B convertible shares having a value substantially equivalent to the cash dividend on Class A convertible shares.
During the year, the company paid stock dividends totalling 112 946 Class B convertible shares and charged $4 million to dividends.

11. Stock options

Imperial has a stock-option plan for certain employees under which options for the purchase of Class A or Class B convertible shares of the company are still outstanding. No further options may be granted under this plan. Each option expires not later than 10 years from the date at which it was granted and all options expire at July 15, 1984.

As of Dec. 31, 1979, there were outstanding options to purchase 693 981 shares (1978 – 979 322) at prices ranging from $14.06 to $38.14 (1978 – $14.06 to $38.14). Included are 148 236 shares under option to directors and officers (1978 – 203 640). Fair market value per share ranged from $15.625 to $42.375 at the dates the options were granted. All options may be exercised currently.

In 1979, options were exercised totalling 242 326 shares for $6 284 856 under the terms of this plan (1978 – 8250 shares for $115 995). Under the terms of another plan, which expired in July, 1979, options were exercised for 22 500 shares for $403 425 (1978 – 20 300 shares for $363 979).

The fair market value of shares on the dates the options were exercised totalled $9 854 000 (1978 – $586 000).

12. Long-term incentive compensation

In July, 1975, the company implemented a long-term plan for incentive compensation under which additional compensation may be granted to selected employees. Future payments with respect to incentive compensation are based on the greater of an increase in the price of Class A convertible shares or an increase in the earnings per share of the company.

The company charged $5 million to earnings in connection with this plan in 1979 (1978 – $3 million).

13. Employee retirement plans

Imperial has a number of retirement plans covering most of the company's employees. Costs of these plans are charged to earnings (1979 – $50 million; 1978 – $35 million) and funded on the basis of actuarial calculations made every three years. The market value of the pension-fund assets is estimated to be $523 million at Dec. 31, 1979, which exceeds the amount of the vested benefits at that date.

As a result of enhancements to the plans and increases in benefits paid to annuitants, the present value of the benefits at Dec. 31, 1979, exceeded the estimated market value by $61 million. This amount will be charged to earnings over a period of 15 years.

14. Contingencies and commitments

The company has a number of contractual obligations and commitments payable under long-term agreements, all of which arose in the normal course of business. The total future liability for all of these agreements is not significant in relation to the consolidated financial position of the company.

A number of lawsuits are pending against the company. In the opinion of counsel, any financial liability that may result from these suits would not have a significant effect on the company's consolidated financial position.

Oil and gas producing activities (unaudited)

Net reserves of crude oil and natural gas

	crude oil		natural gas	
	1978	**1979**	1978	**1979**
	millions of cubic metres		billions of cubic metres	
Net proved developed and undeveloped reserves:				
Beginning of year	108.9	**162.8**	38.6	**37.9**
Revisions of previous estimates and improved recovery	3.1	**3.9**	(0.2)	**4.2**
Purchases, additions, sales and other	58.5	**(10.9)**	1.7	**2.7**
Production	(7.7)	**(8.9)**	(2.2)	**(2.4)**
End of Year	162.8	**146.9**	37.9	**42.4**
Net proved developed reserves (included above:)				
Beginning of year	100.5	**151.6**	25.8	**24.8**
End of year	151.6	**136.7**	24.8	**33.8**

All of the reserves of crude oil and natural gas are located in Canada. Reserves of crude oil include condensate and natural-gas liquids. With the exception of the upgraded crude-oil reserves attributed to the Syncrude project, all reserve estimates are determined by analysis of geological and engineering data, which has demonstrated with reasonable certainty that they are recoverable from known oil and gas fields under existing economic and operating conditions. The reserves of upgraded crude oil attributed to the Syncrude project are determined by applying the company's ownership share of the project to the total production allowed by the production permit. Net reserves are determined by deducting the mineral owners' and/or governments' share from gross reserves. All proved developed reserves are being produced.

The estimates of crude oil do not include the company's share of crude oil to be recovered by tertiary recovery in the Judy Creek field, nor the company's share of the permit capacity of the reserves of upgraded crude oil of the Cold Lake project.

Advanced engineering studies indicate that a tertiary recovery project could add 31 million cubic metres to the oil reserves at the Judy Creek field, and the company has applied for a permit to install such a project. Pending approvals and start-up, this addition has been excluded from the figures for net reserves. The reserves at Cold Lake have been excluded because the project is still in the development stage. The company is currently operating a pilot project in the area and is producing approximately 350 000 m^3 annually. Current plans call for a doubling of the pilot operation in 1980 and the start of construction of a commercial facility early in 1981. Completion of this plant will add approximately 200 million cubic metres to proved developed reserves.

The estimates of natural gas do not include the reserves discovered in the Taglu field in the Mackenzie Delta nor the company share of the reserves discovered in the Arctic islands. These reserves, which are estimated at 90 billion cubic metres, are not yet tied into a transportation system to market.

Oil and gas producing activities
(continued)

Capitalized costs	1978	**1979**
	millions of dollars	
Property costs		
Proved	95	**95**
Unproved	77	**186**
Producing assets	1318	**1444**
Support facilities	53	**62**
Incomplete construction	104	**215**
	1647	**2002**
Accumulated depreciation	389	**441**

Proved property costs include costs for areas where successful drilling has delineated a producing field. Unproved property costs include drilling and other costs relating to the commercial discovery of oil and gas reserves in the Mackenzie Delta/Beaufort Sea region. It also includes costs of areas that have been capitalized but are being delineated by additional drilling or are waiting for pipeline connection. Producing assets, incomplete construction, and accumulated depreciation include the company's share of the capitalized costs of oil-sands activities.

Costs incurred in oil and gas producing activities	1978	**1979**
	millions of dollars	
Property-acquisition costs	52	**108**
Exploration costs	128	**326**
Development costs	227	**253**
Production costs	128	**298**
Depreciation, depletion, amortization, and valuation	29	**51**

Capitalized property-acquisition costs include bonus payments. Filing fees and rentals have been included with acquisition costs although they are expensed as incurred. Costs of the Cold Lake pilot project and the company's share of the costs of the Syncrude project have been included.

Net revenues from the production of oil and gas	1978	**1979**
	millions of dollars	
Sales to unaffiliated parties	111	**142**
Sales to consolidated affiliates	584	**784**
Subtotal	695	**926**
Less production costs	128	**298**
Net revenues	567	**628**

Sales of crude oil to consolidated affiliates are valued at market prices using posted field prices. Sales of natural-gas liquids to consolidated affiliates are valued at amounts equivalent to those that could be obtained in a competitive market. Revenues and production costs include the company's share of oil-sands production.

Management discussion and analysis of the consolidated statement of earnings

1979 compared with 1978

In 1979, earnings rose to $493 million, an increase of $179 million or 57 percent over 1978. Included in earnings is a non-recurring gain of $22 million realized when the Alberta Energy Company Ltd. exercised its option to purchase 20 percent of the company's interest in the Syncrude project.

Total revenues were $6.6 billion, an increase of $980 million or 17 percent over 1978. Sales revenue from crude oil and natural gas was up $176 million, reflecting increases of $6.29 per cubic metre in the prices of crude oil on July 1, 1978 and 1979, and ensuing increases in the price of natural gas. Revenue from sales of petroleum products increased by $564 million, mainly from higher prices due to increases in the price of crude oil and to improved market conditions, particularly in eastern Canada, as well as a volume increase of 3100 m^3/d or four percent. Chemical sales revenues increased by $205 million due to higher petrochemical prices and larger volumes sold. Revenue from other products, primarily tires and auto parts, increased $13 million in 1979.

The increase of $5 million for the company's share of earnings of principal investments came mainly from higher earnings of Interprovincial Pipe Line Limited. A larger number of short-term deposits resulted in a $14-million increase in investment and other revenue.

Total expenses were $6.1 billion, an increase of $823 million or 15 percent over 1978. Larger purchases of petroleum products and chemicals together with higher prices for crude oil caused purchasing costs to increase by $308 million. Operating and exploration expenses rose by $300 million, primarily as a result of additional exploration expenses from greater activity in western Canada and the Atlantic offshore, higher costs to produce additional volumes of crude oil and maintain producibility in existing fields, the first full year of operations for the Syncrude project, and general inflation. Marketing and administration expenses increased by $44 million due to inflation and greater sales volumes.

Depreciation and amortization increased by $20 million partly reflecting the start-up of Syncrude operations. Income taxes increased by $85 million due to higher earnings. Taxes other than income taxes were up $43 million as a result of three increases in the federal government levy on crude oil processed, which was partially offset by a reduction in the special excise tax on gasoline. Interest expense increased by $23 million due to higher short-term interest rates and the $292-million long-term debt issue of September, 1979.

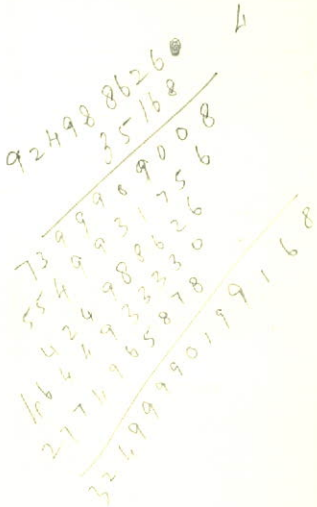
1978 compared with 1977

In 1978 earnings were $314 million, an increase of $21 million or seven percent over 1977.

Total revenues were $5.6 billion, an increase of $694 million or 14 percent over 1977. Sales revenue from crude oil and natural gas was up $172 million as a result of increases of $6.29 per cubic metre in the prices of crude oil on July 1, 1977, January 1, 1978, and July 1, 1978, and ensuing increases in the price of natural gas. These higher prices were partially offset by reductions in volumes sold. Revenue from petroleum products increased by $456 million mainly due to increases in the price of crude oil and a volume increase of 2500 m^3/d or four percent. Chemical revenues increased $62 million due to higher prices and larger volumes of fertilizers and building materials sold. Revenue from other products, primarily auto parts, increased $6 million in 1978.

Total expenses were $5.3 billion, an increase of $673 million or 14 percent over 1977. Purchasing costs increased by $524 million primarily as a result of higher prices for crude oil. Volumes of crude oil purchased including volumes purchased for resale were smaller in 1978, which modified the effect of higher prices.

Increased exploration activity in western Canada, start-up costs for the Syncrude project, and inflation caused an $81-million increase in operating and exploration expenses. Inflation was the primary cause of an increase of $47 million in marketing and administration expenses. A $9-million increase over 1977 for depreciation and amortization was due to the higher amortization charge from increased land acquisitions. Additional depletion allowances more than offset the greater earnings in 1978 so that income taxes decreased by $3 million. Sales taxes on higher revenues from sales of petroleum products were the main components of the $15-million increase in taxes other than income taxes.



Imperial Oil Limited

Five-year financial and operating summary

	1975	1976	1977	1978	**1979**
	millions of dollars				
Revenues:					
Crude oil and natural gas (Note 1)	1484	1295	1525	1697	**1873**
Petroleum products	2073	2495	2852	3308	**3872**
Chemicals	320	345	406	468	**673**
Other products	72	71	75	81	**94**
Other operating revenues	40	40	42	42	**45**
Total operating revenues	3989	4246	4900	5596	**6557**
Equity in earnings of principal investments	16	18	19	19	**24**
Investment and other income	30	29	30	28	**42**
	4035	4293	4949	5643	**6623**
Expenses:					
Purchases of crude oil and products	2468	2554	3012	3536	**3844**
Operating and exploration	384	430	472	553	**853**
Marketing and administration	366	395	429	476	**520**
Interest	36	34	33	33	**56**
Depreciation and amortization	90	97	103	112	**132**
Income taxes	222	197	250	247	**332**
Taxes other than income taxes	217	323	357	372	**415**
	3783	4030	4656	5329	**6152**
Earnings from operations	252	263	293	314	**471**
Extraordinary gain	—	—	—	—	**22**
Earnings for the year	252	263	293	314	**493**
Earnings from operations per share (dollars) (Note 2)	1.93	2.02	2.25	2.41	**3.61**
Funds from operations	470	509	550	571	**906**
per share (dollars) (Note 2)	3.61	3.91	4.22	4.38	**6.95**
Dividends	104	106	116	124	**150**
per share (dollars)	.80	.816	.888	.95	**1.15**
as a percentage of earnings from operations	41	40	40	39	**32**

	1975	1976	1977	1978	**1979**
	millions of dollars				
Financial position at year-end:					
Current assets	1167	1166	1236	1450	**1817**
Current liabilities	595	576	614	908	**918**
Current ratio	2.0	2.0	2.0	1.6	**2.0**
Property, plant and equipment (net)	1619	1814	2009	2298	**2688**
Capital employed (Note 3)	2328	2536	2768	2985	**3737**
Earnings as a percentage of average capital employed (Note 3)	12.2	11.5	11.7	11.4	**15.3**
Total assets	2923	3112	3382	3893	**4655**
Long-term debt	342	331	323	313	**589**
Shareholders' equity (Note 4)	1561	1718	1896	2086	**2440**
Earnings as a percentage of shareholders' equity (Note 4)	16.9	16.0	16.2	15.8	**21.8**
Taxes and royalties charged against income: (Note 5)					
Income taxes	222	197	250	247	**332**
Federal sales tax	97	119	146	161	**168**
Special gasoline excise tax	88	168	174	164	**133**
Other commodity taxes	32	36	37	47	**114**
Crown royalties	273	291	355	427	**507**
Total	712	811	962	1046	**1254**
Share ownership					
Weighted average number of shares outstanding (thousands)	130194	130209	130220	130248	**130340**
Shares held in Canada (percent)	22	24	24	24	**22**
Number of shareholders	44 672	45 807	45 985	46 962	**44 188**

Five-year financial and operating summary

	1975	1976	1977	1978	**1979**
	millions of dollars				
Capital and exploration expenditures:					
Exploration	68	110	114	180	**434**
Production	18	24	31	89	**191**
Heavy oil	102	187	179	138	**62**
Minerals	5	9	11	22	**50**
Total natural resources	193	330	335	429	**737**
Refining	85	23	32	54	**69**
Marketing	29	26	29	32	**33**
Total petroleum products	114	49	61	86	**102**
Chemicals	17	13	12	18	**26**
Other	2	2	4	2	**14**
Total	326	394	412	535	**879**
Portion expensed	49	81	96	116	**210**
Exploration and production:					
Land holdings (millions of hectares) (Note 6)	24.8	20.3	16.0	12.2	**11.3**
Net wells drilled					
exploratory	6	16	34	61	**64**
development	8	11	41	85	**119**
Gross proved reserves (Note 7)					
crude oil (millions of m^3) (Note 8)	180.8	175.0	165.0	217.1	**200.4**
natural gas (billions of m^3)	71.2	66.8	62.1	61.2	**62.0**
Net proved reserves					
crude oil (millions of m^3) (Note 8)	115.7	116.7	108.9	162.8	**146.9**
natural gas (billions of m^3)	54.5	43.0	38.6	37.9	**42.4**
Gross production					
crude oil (thousands of m^3/d) (Notes 8 and 9)	41.2	36.7	35.8	36.0	**40.7**
natural gas (millions of m^3/d) (Note 9)	10.4	9.6	9.2	8.9	**9.8**
Gross volume of natural-gas liquids purchased for resale (thousands of m^3/d	0.9	0.8	0.8	0.7	**1.0**
Net production of natural gas (millions of m^3/d) (Note 10)	5.4	5.2	5.2	6.0	**6.6**

	1975	1976	1977	1978	**1979**
Crude-oil supply and utilization					
(thousands of m^3/d) (Note 8):					
Net production of crude oil (Note 11)	26.1	23.0	22.1	21.9	**25.4**
Net purchases from others (Note 12)					
domestic	12.6	20.3	26.3	28.4	**31.0**
imported	24.0	24.0	19.2	18.9	**15.2**
Crude oil processed at Imperial refineries	62.7	67.3	67.6	69.2	**71.6**
Refinery capacity at Dec. 31	80.3	80.9	81.2	77.9	**76.8**
Utilization of capacity (percent)	78	83	83	89	**93**
Sales volumes:					
Petroleum products					
(thousands of m^3/d)					
gasolines	24.5	26.1	26.0	27.2	**28.1**
middle distillates	23.0	23.9	22.6	23.4	**23.6**
other products	18.9	20.2	20.2	20.7	**22.7**
total	66.4	70.2	68.8	71.3	**74.4**
Crude oil					
(thousands of m^3/d)					
domestic	65.2	51.2	55.6	50.1	**50.9**
export	19.5	10.1	4.1	2.8	**2.1**
total	84.7	61.3	59.7	52.9	**53.0**
Natural gas					
(millions of m^3/d)	11.7	10.7	10.3	9.7	**10.4**
Chemicals (thousands of tonnes per year)					
petrochemicals	678	777	862	804	**1036**
fertilizers	561	487	609	657	**744**
building materials	421	455	446	519	**506**
total	1660	1719	1917	1980	**2286**
Employees:					
Number at Dec. 31	15 321	14 753	14 136	14 328	**14 966**
Total payroll and benefits	326	339	354	384	**487**
Payroll and benefits per employee (Note 13)	19 800	21 600	23 700	26 100	**32 300**

Notes

(1) Crude-oil revenues include sales of purchased crude oil.

(2) Per-share amounts for earnings and funds from operations have been calculated using the weighted average of shares outstanding.

(3) Earnings as a percentage of capital employed are earnings after income taxes plus after-tax interest on long-term debt. This amount is expressed as a percentage of average capital

Five-year financial and operating summary
(continued)

employed. Capital employed is total assets less current liabilities.
(4) Earnings as a percentage of shareholders' equity are earnings after income taxes, expressed as a percentage of average shareholders' equity.
(5) Income taxes do not include the 1979 tax on gain on sale of 20 percent of the company's interest in the Syncrude project.
(6) Land holdings exclude the interests of others. Holdings relating to conventional oil and gas, Cold Lake, and the Athabasca oil sands are included; holdings for coal and other minerals are excluded.
(7) The reserves figures do not include crude oil or natural gas discovered in the Mackenzie Delta/Beaufort Sea or the Arctic islands, the Judy Creek tertiary reserves, nor the heavy, viscous oil at Cold Lake and other such deposits. They do include 47 million cubic metres as the company's share of the permit capacity of the Syncrude project.
(8) Crude oil includes natural-gas liquids.
(9) Gross production includes only the production directly owned and produced by the company before deduction of the mineral owners' and/or governments' share.
(10) Net production of natural gas is the amount remaining after gas purchased for resale and the minerals owners' and/or governments' share have been deducted from total sales.
(11) Net production is after deduction of the mineral owners' and/or governments' share.
(12) The figures shown for crude purchases include changes in inventories during the year.
(13) Payroll and benefits per employee is calculated from total payroll and benefits for full-time employees divided by the monthly average number of full-time employees.
(14) Includes crude oil purchased for resale.

Financial information by operating segments	1975	1976	1977	1978	**1979**
					millions of dollars
Revenues					
Natural resources	91	125	155	178	**228**
Petroleum products	2197	2618	2981	3440	**4019**
Chemicals	320	345	406	468	**673**
Other (Note 14)	1427	1205	1407	1557	**1703**
	4035	4293	4949	5643	**6623**
Intersegment					
Natural resources	653	680	796	1021	**1312**
Petroleum products	14	49	67	108	**144**
Chemicals	15	15	19	21	**28**
	682	744	882	1150	**1484**
Total revenues					
Natural resources	744	805	951	1199	**1540**
Petroleum products	2211	2667	3048	3548	**4163**
Chemicals	335	360	425	489	**701**
Other (Note 14)	1427	1205	1407	1557	**1703**
	4717	5037	5831	6793	**8107**
Operating earnings (loss)					
Natural resources	166	177	185	220	**215**
Petroleum products	54	48	76	75	**176**
Chemicals	31	19	16	20	**68**
Other	1	19	16	(1)	**12**
	252	263	293	314	**471**
Capital employed at Dec. 31					
Natural resources	634	809	1072	1238	**1711**
Petroleum products	1453	1442	1433	1524	**1506**
Chemicals	174	176	169	196	**217**
Other	67	109	94	27	**303**
	2328	2536	2768	2985	**3737**

Quarterly financial and stock-trading information

	1979 three months ended			
	Mar. 31	June 30	Sept. 30	Dec. 31
	millions of dollars			
Revenues	1533	1537	1662	1891
Expenses	1444	1429	1550	1729
Syncrude gain	–	–	22	–
Earnings	89	108	134	162
	dollars			
Earnings per share	0.68	0.83	1.03	1.24
Dividends per share	0.25	0.25	0.30	0.35
Share prices				
High	29¾	39	45¼	46¼
Low	24⅞	26⅝	33¾	35⅝
	thousands			
Shares traded	4634	6484	6917	6804

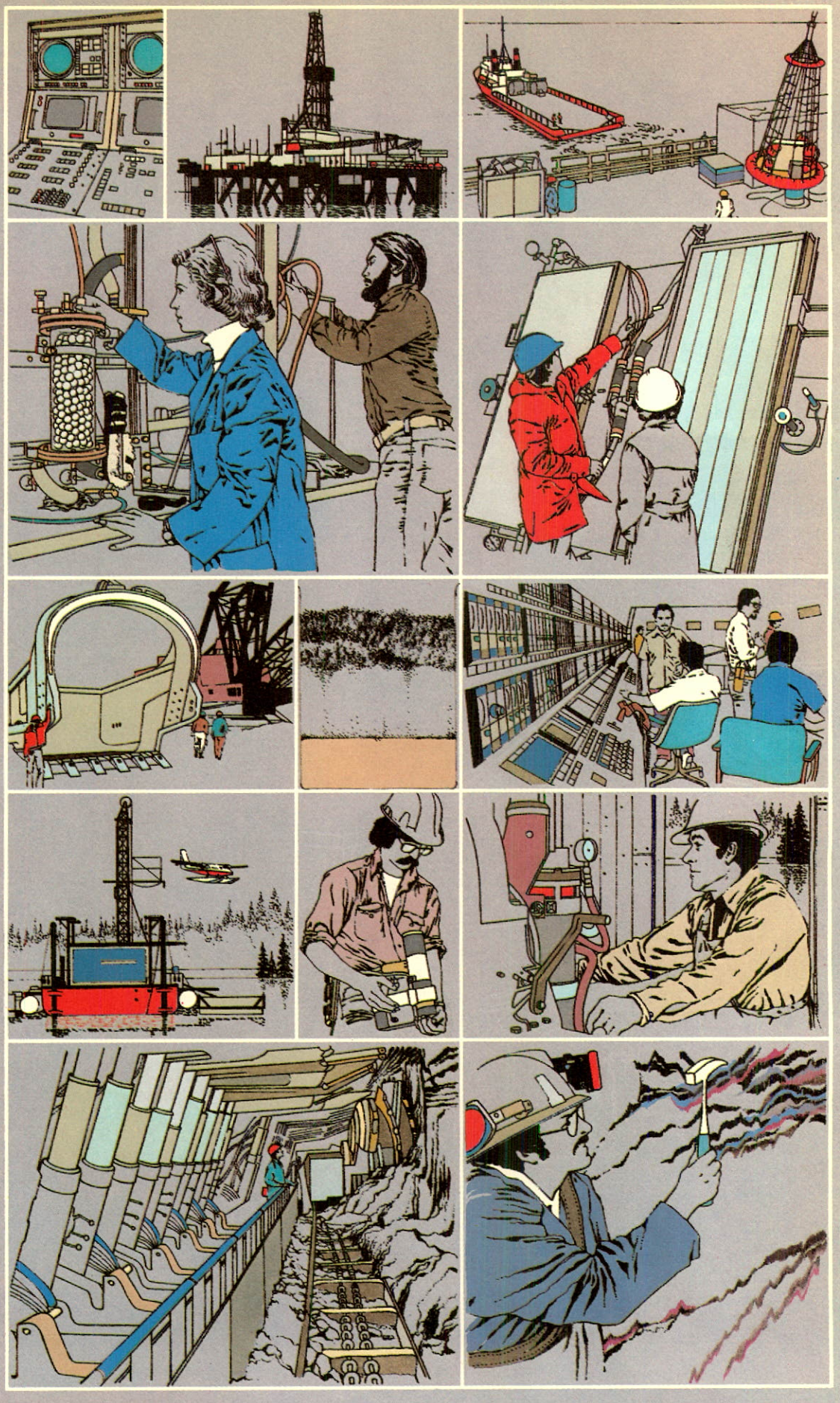
	1978 three months ended			
	Mar. 31	June 30	Sept. 30	Dec. 31
	millions of dollars			
Revenues	1285	1339	1433	1586
Expenses	1213	1265	1355	1496
Earnings	72	74	78	90
	dollars			
Earnings per share	0.55	0.57	0.60	0.69
Dividends per share	0.225	0.225	0.225	0.275
Share prices				
High	21½	20⅞	24¾	25¼
Low	18⅜	18¼	18⅜	20⅜
	thousands			
Shares traded	1745	3533	5190	3209

The stock of Imperial Oil Limited is listed on the Montreal, Toronto, and Vancouver stock exchanges and traded on the American Stock Exchange. The earnings and dividends per share are shown for each quarter of 1979 and 1978. The high and low Toronto prices and the number of shares traded on all exchanges are also shown for Class A shares.

Accounting for the effects of inflation

Since the 1975 annual report, the company has provided, as supplemental information, the effects of inflation on its financial reporting. This information was based on differing methods that were being recommended at the time and therefore the results were not always comparable. In December, 1979, the Canadian Institute of Chartered Accountants issued an exposure draft on current-cost accounting, which is being reviewed by accountants and other interested parties. Because the style of this recommendation differs from that used in Imperial's 1977 and 1978 presentations and analysis of the data could result in misleading comparisons, the company has not provided a statement of the effects of inflation on financial results in the 1979 annual report.

Most of this information is required by the Securities and Exchange Commission of the United States, however, whose methodology is similar to the accounting methods used in the company's 1978 annual report. Shareholders and others may obtain this information from the company's Form 10-K, which is available from the Manager, Investor Relations, at the company's head office.



Foresight has helped the company prosper during the past 100 years–and in 1980 Imperial is still looking to the future. Off the Atlantic coast, a giant drilling rig is automatically positioned in the water by a complex stabilizing system and massive engines. Smaller ships deliver supplies as regularly as weather permits.

Sarnia researchers study ways to store heat from solar collectors, such as those atop the company's research building.

In the oil sands of Alberta, an immense Syncrude dragline bucket scoops up the oil sand. When steamed, bitumen floats in a froth on top of water, while sand sinks to the bottom. An up-to-date control room monitors the plant's processes.

Esso Mineral's Canada is searching for uranium. At Midwest Lake, Sask., members of the drilling crew operate an exploratory rig.

Coal is a fuel with a future, and new technology and equipment have doubled underground recovery to more than 90 percent. A geologist checks ore in the company's new lead-zinc mine at Gays River, N.S.

Directors, officers, and board committees

Directors
J. A. Armstrong
Chairman and chief executive officer, Imperial Oil Limited
J. B. Buchanan
President, British Columbia Packers Ltd. (fish and seafood)
P. Des Marais II
President, Pierre Des Marais Inc. (printing and lithography)
J. W. Flanagan
Senior vice-president, Imperial Oil Limited
M. Kovitz
President, Murko Investments Ltd. (property and livestock)
J. G. Livingstone
President, Imperial Oil Limited
D. D. Lougheed
Senior vice-president, Imperial Oil Limited
W. A. Macdonald
Partner, McMillan, Binch (barristers and solicitors)
V. Sirois
Senior vice-president, Imperial Oil Limited
W. J. Young
Senior vice-president, Imperial Oil Limited

Board of directors
At Dec. 31, 1979, the board comprised ten members. Six are employees of the company and four have their principal employment outside Imperial. J. H. Hamlin resigned on Aug. 31, 1979, and J. B. Buchanan was appointed as a director on Sept. 24, 1979. Mr. Hamlin became senior vice-president of Esso Resources Canada Limited, Calgary, Alta., on Sept. 1, 1979.

The board meets monthly to consider items of major corporate significance. These include financial and social performance, investment decisions, strategic plans, and corporate policies, in addition to other matters on which the board is legally required to act. In 1979, attendance at board meetings averaged 86 percent.

Meetings of board committees are usually scheduled following board meetings. Attendance at all board committees in 1979 was 79 percent or greater.

Board committees

Audit committee
Chairman:
W. A. Macdonald;
Vice-chairman: P. Des Marais II;
Members: J. B. Buchanan,
M. Kovitz,
J. G. Livingstone,
W. J. Young.

The committee meets six times a year to review the company's financial statements, accounting practices, and business and financial controls. It also recommends the appointment of auditors and reviews their fees. The shareholders' auditor, Price Waterhouse & Co., and the company's internal auditor attend and participate in all meetings.

Contributions committee
Chairman: M. Kovitz;
Vice-chairman: P. Des Marais II;
Members: J. A. Armstrong,
J. B. Buchanan,
W. A. Macdonald.

The committee meets at least twice a year to examine policies and programs related to the company's contributions to Canada's social needs. An annual budget, which includes support for education, health, welfare, community services, sports, and culture, is recommended to the board for adoption.

Board compensation committee
Chairman: P. Des Marais II;
Vice-chairman: J. B. Buchanan;
Members: J. A. Armstrong,
M. Kovitz,
W. A. Macdonald.

The committee meets at least three times a year to decide on the appropriate compensation for senior vice-presidents or their equivalent and to recommend to the board specific compensation for the chairman and president. It also reviews overall policy on corporate compensation and the process by which the future managers of the company are identified and selected.

Officers

Chairman of the board and chief executive officer:
J. A. Armstrong.
President:
J. G. Livingstone.

Senior vice-presidents:
J. W. Flanagan,
D. D. Lougheed,
V. Sirois,
W. J. Young.

Vice-presidents:
R. E. Landry, *external affairs;*
A. M. Lott, *treasurer;*
D. H. MacAllan, *corporate affairs and general secretary;*
G. R. McLellan, *comptroller;*
A. G. Moreton, *president, Esso Chemical Canada;*
G. A. Rogers, *general counsel;*
P. Stauft, *natural resources coordination;*
T. H. Thomson, *marketing;*
W. A. West, *logistics.*

Subsidiaries, principal investments, and investor information

Subsidiary companies

W. H. Adam, Ltée, Ltd.
Atlas Supply Company of Canada Limited
Building Products of Canada Limited
Canada Wide Mines Ltd.
Champlain Oil Products Limited
Citadel Centres Limited
Delta Rope & Twine Limited
Devon Estates Limited
86129 Canada Ltd.
E S F Limited
Esso of Canada Limited
Esso Resources Canada Limited
434838 Ontario Limited
The Imperial Pipe Line Company, Limited
Maple Leaf Petroleum Limited
Midwest Fibreboard Ltd.
Mongeau & Robert Cie Ltée
95185 Canada Limited
95269 Canada Limited
Nisku Products Pipe Line Company Limited
Northwest Company, Limited
J. P. Papineau Ltd.
Renown Building Materials Limited
Les Restaurants Le Voyageur Inc.
Robbins Floor Products of Canada Ltd.
Servacar Ltd.
Stanmount Pipe Line Company Ltd.
Winnipeg Pipe Line Company Limited

Principal investments in other companies, not consolidated

	Percentage of ownership
Alberta Products Pipe Line Ltd.	30.0
Interprovincial Pipe Line Limited	32.8
Montreal Pipe Line Limited	32.0
Rainbow Pipe Line Company, Ltd.	33.3
Tecumseh Gas Storage Limited	50.0
Trans Mountain Pipe Line Company Ltd.	8.6

Imperial Oil Limited

The company was incorporated under the Canada Joint Stock Companies Act, 1877 on Sept. 8, 1880. Its head office is at 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3. Telephone (416) 968-4111.

Annual Meeting

The annual meeting of shareholders will be held at 11:00 a.m., Friday, April 25, 1980, in the Canadian Room, Royal York Hotel, Toronto.

Transfer Offices

Shares of Imperial Oil Limited may be transferred at the following offices: head office of Imperial Oil Limited; principal offices of Montreal Trust Company at St. John's, Charlottetown, Halifax, Saint John, Montreal, Toronto, Winnipeg, Regina, Calgary, and Vancouver; and Morgan Guaranty Trust Company of New York.

Investor Information

Investors may obtain information to assist them in evaluating the company's operations and results, including the annual report on Form 10-K filed with the United States Securities and Exchange Commission, from the Manager, Investor Relations, Imperial Oil Limited, at 111 St. Clair Avenue West, Toronto, Canada, M5W 1K3. Changes of address or inquiries about shares and dividends may be sent to the Assistant Secretary, Shareholder Affairs, at the same address.

Les rapports de la Compagnie Pétrolière Impériale Ltée aux actionnaires sont publiés en français et en anglais. Si vous préférez recevoir ces rapports en français, veuillez écrire à la division des Relations avec les actionnaires, Compagnie Pétrolière Impériale Ltée, 111, avenue St. Clair ouest, Toronto, Canada, M5W 1K3.

Designed by Burns Cooper Hynes Limited

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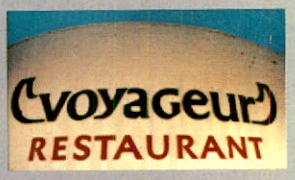
THE IMPERIAL OIL
ROYALITE
COMPANY—LIMITED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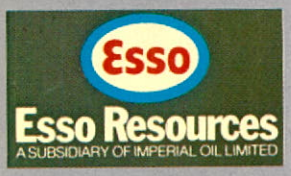
RESTAURANT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IOCO
LIQUID
GLOSS

IMPERIAL

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EXTRA

IMPERIAL

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Premier
Gasoline
COMPANY—LIMITED

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Royalite
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